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## Cybersecurity Consortium Gets Insurer's Backing

AIG endorses security sensors developed by public/private partnership that sidesteps DHS

BY DAN VERTON

One of the nation's largest insurers is throwing its weight behind a public/private partnership that claims it has a better answer to the challenge of sharing security-related information than the U.S. Department of Homeland Security does.

Though details haven't been

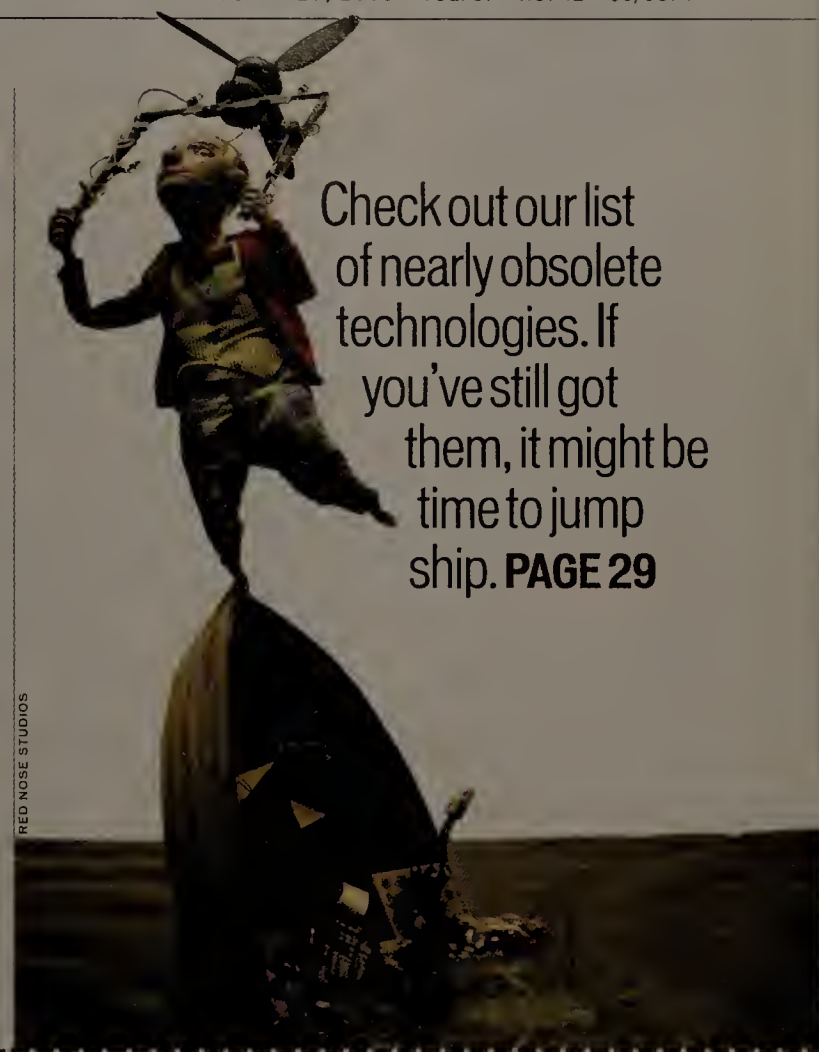
agreed upon, American International Group Inc. will offer discounted insurance rates to customers that deploy security sensors being developed by the Cyber Incident Detection & Data Analysis Center. Philadelphia-based CIDDAC is a volunteer partnership of more than a dozen IT vendors, user companies and the FBI's Infragard program.

Robert A. Parisi Jr., senior vice president and chief underwriting officer at AIG eBusiness Risk Solutions, said New York-based AIG would view

*Cybersecurity, page 14*

SUBMERGING TECHNOLOGIES:

## FIVE THAT ARE SINKING FAST



Check out our list of nearly obsolete technologies. If you've still got them, it might be time to jump ship. **PAGE 29**

RED NOSE STUDIOS

### POWER TIPS

Utilities struggle with ways to tackle cybersecurity:

QuickLink 42157  
computerworld.com

## Users Weigh Merit of Office System 2003

Some question need for making early move

BY CAROL SLIWA

Microsoft Corp. won't merely be pitching new versions of Word, Excel, Outlook, Power-

Point and Access when it launches Office System 2003 tomorrow in New York.

The software maker will try its best to convince corporations that they can improve the productivity of not only individual employees but also teams of workers and their entire organizations by upgrading to the integrated set of client and server products that its Office System comprises.

*Office System, page 16*

## Real-Time IT Heading Offshore

Financial firms join forces to mitigate security, privacy risks

BY PATRICK THIBODEAU AND LUCAS MEARIAN

Some of the largest financial services firms in the country are banding together to develop a set of best practices for moving their real-time IT processes offshore.

These companies, in a sector that's collectively an aggressive user of low-cost offshore IT services, aim to reduce the risk of shifting live operations, including production application support, to India and other countries.

Offshore development has

traditionally focused on application development and maintenance — coding work that doesn't involve access to live production systems or data. But IT shops will take more of their core operations offshore if management of security, privacy and other risks can be adequately addressed.

Once companies start managing their production applications offshore, foreign-based providers will theoretically have access to live data, said Jim Salters,

director of technology initiatives and project development at the New York-based Financial Services Technology Consortium, or FSTC, which is de-

*Offshore, page 61*

### IN-DEPTH

For comprehensive coverage of outsourcing issues, go on line:

QuickLink a2290  
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## Stressing Home Field Advantage

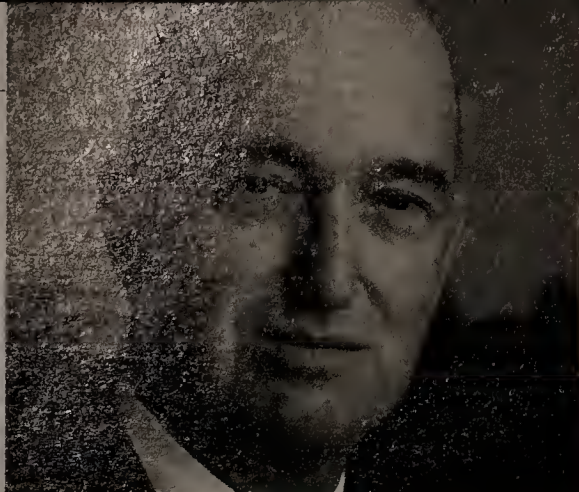
U.S. IT vendors are attempting to compete with offshore service providers by developing more cost-effective business models and telling customers that price isn't everything.

One such company is Ariesnet Inc., a Web developer that uses independent contractors to deliver projects in a system it calls "virtual teaming." The system allows Ariesnet to deploy its workers as needed and get more done at lower cost, said Cruce Saunders, president of the Dallas-based company.

By treating employees well and building a project delivery structure that allows flexibility

*Competing, page 61*





Dr. Jim Metzler

Dr. Jim Metzler is widely recognized as an authority on both network technology and its business applications. In over 28 years of professional experience, Jim has assisted tens of vendors refine their product strategies and simultaneously helped over a hundred enterprises evolve their network infrastructure.

# UNISYS PRESENTS ask THE EXPERT

*A few minutes with Dr. Jim Metzler,  
Vice President,  
Ashton, Metzler & Associates*

## Managed Services

### > What is a managed security services provider (MSSP)?

An MSSP is a company in the business of providing electronic security services on a third-party basis. (MSSPs such as Unisys are preparing to support physical security such as implementations of Lenel access control systems or IP-enabled video surveillance cameras that might be remotely monitored from a security operations center.) There are a wide range of MSSPs—from companies that provide one or two very specific security services to companies that provide a large number of security services.

**“The principle benefit of using an MSSP is that it gives a company access to skilled resources.”**

### > What are the benefits of outsourcing your enterprise security infrastructure to an MSSP?

Driven either by concerns about their own financial vulnerability or possibly by government regulation, security is one of the top issues in virtually every IT organization. Moreover, security is also very visible—if a company has a security breach, it is often well-publicized both within and without the company. The principle benefit of using an MSSP is that it gives a company access to skilled resources.

### > Does a company relinquish control of security services when using an MSSP?

That is the key risk associated with any sort of outsourcing relationship. Given that, it is important to turn this concern into the key criteria that a company uses when choosing what they will outsource, as well as to whom they will outsource. In particular, when a company is considering using an MSSP, the company needs to ensure that the MSSP has processes that are flexible enough to ensure that the company is not giving up an unacceptable amount of control.

### > Which strategic security functions should remain in-house and which can be outsourced?

There is one function that absolutely must be outsourced, and that is doing a security audit. Each company must have regular security audits performed. The MSSP that is doing the audit

must of course have expertise in this area and must also be clear of conflict of interest—it cannot be an organization that is providing any other security functionality for the company.

As a general rule, companies that fit the following criteria should outsource functions:

- The company is not good at performing that functionality, nor do they foresee developing the requisite expertise;
- The company feels confident that they have found an MSSP with the expertise;
- The company feels confident that it can maintain a high level of control while using the MSSP.

### > What should a company look for in a potential MSSP?

A good security approach should embrace a multilayered security infrastructure that requires multiple technologies, process and procedures to be breached. In evaluating security outsourcing, an organization should make sure that they do the following:

- Obtain clear and concise Service Level Agreements
- Clearly understand the roles and responsibilities of both the outsourcing provider and the in-house staff.
- Come to clear agreement on security incident severity levels and the desired actions should an incident occur.
- Look for up-to-date accreditation or certifications for the personnel who work for the MSSP.
- Examine what security tools are used by the MSSP, particularly any tools that the MSSP might have developed that provide important functionality that the company currently lacks.
- Are the MSSP's processes thorough and detailed enough to show a thought-out, well-documented approach to providing security?
- Choose an MSSP that has a strong, demonstrable track record of providing the security services of interest to a wide range of customers, including some that are similar to the company in question.
- Check to make sure that the MSSP can provide the services in the local geography or required language.

For more information, please call 800-874-8647 x385 or visit [www.unisys.com/security](http://www.unisys.com/security)

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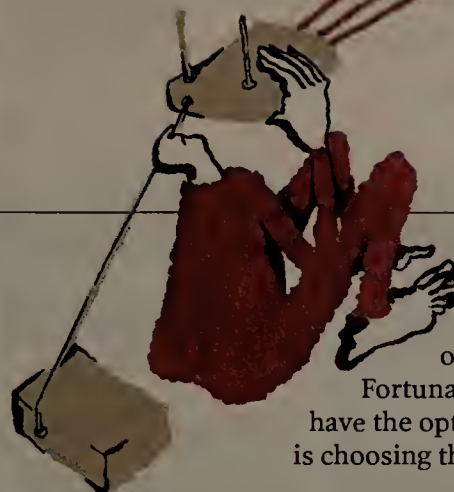


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### Hire People, Not Tools

**DEVELOPMENT:** There's a lot more than technical skills to consider when hiring a developer onto your team, says columnist Johanna Rothman. **QuickLink 41972**

### Book Excerpt: The Art of Unix Programming

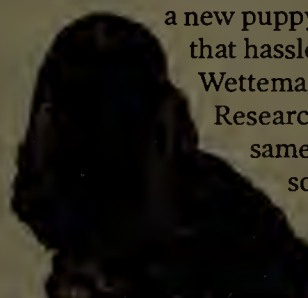
**DEVELOPMENT:** Author Eric S. Raymond discusses the philosophy of Unix, what it got right and what it got wrong. **QuickLink 41814**

### Ten Steps to a Successful Security Policy

**SECURITY:** Adrian Duigan, product manager at NetIQ, offers advice to network administrators on developing an acceptable-use policy. **QuickLink 40050**

### All I Know About Software Upgrades I Learned From My Dog

**MANAGEMENT:** If your current dog is housebroken, why would you want to get a new puppy and go through that hassle again? Rebecca Wettemann of Nucleus Research asks the same question about software upgrades. **QuickLink 42123**



### What's a QuickLink?

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## AT DEADLINE

### SCO Holds Off on Rise in Linux Fee

The SCO Group Inc. said it will give Linux users another two weeks before doubling the license fees it's seeking from them to cover what the company claims is unauthorized use of its Unix technology. The current price of \$699 per CPU will remain in effect until Oct. 31, SCO said. The London, Utah-based company has also indefinitely shelved a plan to begin sending licensing invoices to corporate Linux users.

### VeriSign to Divest Domain-Name Unit

VeriSign Inc. in Mountain View, Calif., is selling control of its Network Solutions Inc. domain-name registration unit as part of a plan to focus on IT security and other infrastructure technologies. VeriSign said Pivotal Private Equity in Phoenix will pay \$100 million for an 85% stake in Network Solutions. Meanwhile, VeriSign will retain its domain-name registry business. (Read an interview with VeriSign CEO Stratton Scavos on our Web site: QuickLink 42208.)

### Sun Reports Loss, Weak Server Sales

Sun Microsystems Inc. reported a \$286 million loss on revenue of \$2.54 billion for its first quarter, which ended Sept. 28. CEO Scott McNealy said it could take "the next couple of years" for sales of high-end servers to rebound. Revenue was down 8% year-over-year, partly as a result of a halt in most server shipments during July because of quality problems that have been since resolved.

### EMC Has Profit, 20% Revenue Gain

EMC Corp. said it earned a profit of \$159 million on \$1.51 billion in revenue in the third quarter. Revenue was up 20% from the year-earlier total of \$1.26 billion. (See related story, page 20.)

# Microsoft Users Get First Taste of Monthly Patching Plan

Users' feelings mixed about getting fixes for five major flaws simultaneously

BY JAIKUMAR VIJAYAN

**M**ICROSOFT CORP. last week released seven patches — five of them for critical vulnerabilities — as part of its recently announced plan to move to a monthly security update schedule.

Five of the patches are for flaws in

Windows, and two are for flaws in Exchange Server.

The fact that users now have to deal with several patches at once is "disappointing" said Edward York, chief technology officer at 724 Inc., an application service provider in Lompoc, Calif.

"I was pretty upset yesterday when I saw all those patches come out at once," York said. "But when I sit down and think about it, it's probably not all that bad" to have a monthly schedule for patching, he added. "It will probably be quicker for me to

manage my systems instead of having to update two or three times a month."

"It's nice to get the patches as a cluster of patches instead of one patch at a time," said

Tim Rice, network systems analyst at Duke University Health System in Durham, N.C. The hospital uses an automated patching

tool from Emeryville, Calif.-based BigFix Inc. to deploy patches to all 5,600 systems on its network. Getting multiple patches at the same time will make patch testing easier, Rice said. A new option for uninstalling patches that appears along with the security bulletin is also useful, he added.

However, with a monthly schedule, "the longer potential delay between a patch being ready and me getting it concerns me a little bit," Rice said.

The University of Texas at Dallas is using Microsoft's automated Software Update Ser-

### UBER PATCH

Microsoft releases a consolidated patch with 22 updates to Windows XP:

QuickLink 42218  
www.computerworld.com

vice to deploy patches. So moving to a monthly schedule won't make much difference, said Paul Schmehl, the university's adjunct information security officer.

"Frankly, I don't think they're going to be able to strictly adhere to a monthly release schedule anyway," Schmehl said. With some serious patches, "they won't have the option to wait until the next monthly release."

### Threat Assessment

Of the vulnerabilities for which Microsoft released patches last week, three in

particular are serious, said Russ Cooper, editor of NT-Bugtraq and an analyst at Herndon, Va.-based TruSecure Corp.

The most serious is a buffer-overflow flaw in Windows' Messenger Service. The feature has already been widely exploited to spam unprotected Internet-connected systems. "It is such a simple service that it is very easy to craft a buffer-overflow" attack that exploits the flaw, Cooper said,

Another major flaw is in a Microsoft technology called Authenticode, which is used to verify the authenticity of downloadable software and applications — such as a Macromedia player, for instance. The flaw could allow attackers to download malicious ActiveX controls on a victim's computer under certain low-memory conditions, Cooper said.

The third serious flaw exists in the Internet Mail Service associated with Exchange Server. The flaw could result in denial-of-service attacks against vulnerable systems, Cooper said. **Q 42185**

### 'Critical' Patches

**MS03-041:** Flaw in Authenticode

**MS03-042:** Buffer overflow in an ActiveX control

**MS03-043:** Flaw in Windows Messenger Service

**MS03-044:** Buffer overflow in a help function in Windows XP and Windows Server 2003

**MS03-046:** Flaw in Internet Mail Service

# Government Report Says FBI Needs to Do More to Secure IT

Audit finds FBI's IT infrastructure remains vulnerable

BY TODD R. WEISS

Despite improvements that have been made since the Sept. 11 terrorist attacks, core parts of the FBI's IT infrastructure remain vulnerable to security problems, making it harder for the agency to help protect the nation.

That's one of the main findings of an audit of the FBI's IT systems that was released last

week by the U.S. Department of Justice's inspector general. The 178-page report said that some of the 11 "major internal control weaknesses" found in a 1990 audit are still applicable now.

"We do believe strongly that the FBI needs to move into the 21st century, or even the 20th century, in order to equip [its] agents with the tools they need to do their jobs better," said Paul Martin, a deputy in the inspector general's office. "They're making strides, but they have further to go."

Progress has been made in improving the security of investigative and administrative systems that run on mainframes at FBI headquarters and a data center in West Virginia, the audit found. But security gaps remain, the report said. "These repeated deficiencies indicate that, in the past, FBI management had not paid sufficient attention to improving its IT program," it added.

The report cited concerns about the agency's IT security policies, procedures and stan-

dards; its data backup and restoration controls; its password and log-on management approaches; and its system auditing and patching capabilities. The various shortcomings were labeled as "high-to-moderate risk" security flaws.

The inspector general recommended that the FBI take several steps to make additional improvements, including the development of specific procedures for implementing actions that were called for in earlier audits (see box). The report also said the agency should ensure that its new Automated Response and Compliance System database, which is used to track IT improvements and provide real-time status information to FBI



# Toronto Airport Puts Emphasis On Security With WLAN Project

Central control, role-based access scheme are designed to deter intruders

BY BOB BREWIN

In a bid to avoid the IT security problems that have plagued some airport wireless LANs, the Greater Toronto Airports Authority (GTAA) is installing a centrally managed WLAN that was designed from the ground up to prevent intrusions into applications such as baggage-handling systems.

The WLAN, which is being installed in a terminal that's due to open early next year at Toronto Pearson International Airport, will use a role-based access control approach designed by Hewlett-Packard Co.'s Canadian unit. HP Canada won a contract to install the network in January, and details of the project were disclosed last week.

At many U.S. airports, airlines have installed WLANs on an ad hoc basis, in some cases creating unencrypted networks that were open to sniffing and potential intrusions [QuickLink 26374]. In an effort to avoid those problems, the GTAA will install its own

WLAN plus a fiber backbone and manage the network for the airlines that use the airport, said James Burke, vice president of IT and telecommunications at the GTAA.

"We have stepped into the network management role," he said. "There is no doubt who is managing the wireless spectrum. No one wants baggage-tracking data sniffed." Burke and HP officials declined to disclose the project's cost, other than to say it's a multi-million-dollar initiative.

## Setting Boundaries

In an attempt to prevent any network intrusions, HP's role-based setup is able to control access to the WLAN based on the jobs and work locations of end users, said Victor Garcia, director of mobility services at HP Canada. For example, a ramp worker loading luggage onto planes would be able to access the bag-tracking application on the WLAN only within about 320 feet of his usual work location. Such ac-

cess parameters will be managed by a database of role-specific information about airport workers, Garcia said.

The role-based access system will also make it easier for the GTAA to add public Wi-Fi access capabilities and keep public users separated from the secure part of the network, according to Garcia.

HP Canada tapped Burlington, Mass.-based Bluesocket Inc. to provide the security technology for the WLAN. Dave Juitt, Bluesocket's chief technology officer, said the company's wireless gateways could be configured to make

## Security Mechanisms

■ **Access control:** End users will get network access privileges based on their jobs and work locations.

■ **Supported protocols:** LEAP, PEAP and LDAP for user authentication; DES, Triple DES and AES for data encryption.

■ **Segmented traffic:** The airport can use the WLAN to offer public Wi-Fi access without affecting network operations.

the network access controls even more precise. Access could be granted to users for limited periods — such as the time needed to load or unload an aircraft's baggage hold.

In addition, the gateways

could be set up to support a variety of authentication and encryption technologies to give the WLAN "bulletproof" security, Juitt said (see box).

Burke said the WLAN will support the core baggage-tracking application being installed at Pearson's new Terminal 1 by Societe Internationale de Telecommunications de Aeronautiques, an airline-owned IT company in Geneva.

The WLAN includes 256 tri-mode wireless access devices made by Cisco Systems Inc., all designed to support the 802.11a, 802.11b and 802.11g protocols. That should enable the GTAA to add high-bandwidth applications such as video surveillance cameras to the wireless network without overtaxing it, Burke said.

☎ 42189

# Sun Moves to Broaden App Support for Solaris on x86

BY PATRICK THIBODEAU

Sun Microsystems Inc. last week detailed an initiative to make Solaris on x86 more attractive to users by broadening application support.

Company officials said Sun is working with as many as 150 key business application vendors, including BEA Systems Inc., Oracle Corp. and Sybase Inc., to ensure that their applications are optimized for Solaris on x86.

John Loiacono, vice president of operating platforms at Sun, said it's critical that Solaris on x86 has up-to-date support from mainstream business application vendors. "Without applications, the platforms aren't very useful," he said.

Solaris on x86 is getting backing from users such as Gerry Vest, a systems administrator at the Southwest Foundation for Biomedical Research in San Antonio. The foundation is running Solaris on a cluster of 700 dual-processor Intel-based servers.

"The code base for Solaris x86 is based on Sparc Solaris, which is rock-solid," said Vest. "In that respect, it's Linux that

has to play catch-up."

Matthew Leeds, vice president of operations at Grace-note Inc., an Emeryville, Calif., company that produces systems used in music recognition, evaluated both Solaris on x86 and Linux. It opted for Solaris on x86 because of its better transaction-processing capability, Leeds said. Though Linux was attractive for its off-the-shelf cost, long-term support costs mitigated the initial pricing differences, he said.

## Product Direction

Sun has hired developers to support Solaris on the 64-bit Opteron processor from Advanced Micro Devices Inc. Loiacono said Sun has no plans to do likewise for Intel

Corp.'s 64-bit Itanium because it doesn't see customer demand for it. The Opteron support may be ready by the middle of next year, he said.

Sun's efforts to boost Solaris on x86 began in earnest in May, when it released servers running Intel's Xeon processors.

The company maintains that Solaris.Next — what might otherwise be called Solaris 10 — will offer strong incentives for companies to opt for Unix on Intel over Windows or Linux. The next version of Solaris is set for release in the fourth quarter of 2004.

Solaris.Next will include self-healing capabilities to deal with problems created, for instance, by application memory leaks; file systems that scale to handle terabytes of data; and security capabilities already available in Sun's Trusted Solaris version that allow access control at the root level.

Dan Kusnetzky, an analyst at IDC in Framingham, Mass., said Sun's x86 strategy has been hurt by the perception that the company isn't as willing to embrace the Intel platform as its competitors. To convince users otherwise, Sun will have to take measures such as porting all its tools to the x86 version of Solaris, he said. ☎ 42184

## Investigating The FBI

The inspector general's report on the agency's systems:

- **FOUND** that IT security vulnerabilities remain despite multiple warnings.
- **ALLS** for the FBI to implement earlier recommendations to improve security.
- **SUGGESTS** that FBI managers be held accountable for making needed changes.

officials, is kept up to date.

FBI spokesman Paul Bresson said the agency agrees with many of the recommendations in the report. "Many of them,

we're already working on," he said. "There are still deficiencies, but we have made significant progress over the years in upgrading our IT."

In addition to the security issues, the inspector general took the FBI to task for having systems that are difficult to use. For example, the report described the agency's investigative systems as "labor-intensive, complex, untimely and non-user friendly."

For the past three years, the FBI has been working on an IT modernization project called Trilogy that involves installing a new network and upgrading desktop systems and end-user applications. The project is due for completion by May, FBI officials said. ☎ 42190



## BRIEFS

## Vendors Propose Utility IT Standard

Electronic Data Systems Corp. and Opware Inc. in Sunnyvale, Calif., announced a proposed utility-computing standard for modeling the system resources in data centers. More than 25 other companies, including Computer Associates International Inc. and BEA Systems Inc., said they support the Data Center Markup Language proposal. (For more, see "Frankly Speaking," page 62.)

## IBM to Acquire Integration Tools

IBM said it's acquiring the software assets of CrossAccess Corp., a Santa Clara, Calif.-based vendor of tools for integrating mainframe databases sold by IBM and rival vendors with applications running on other systems. The purchase price wasn't disclosed. IBM said it plans to meld CrossAccess' eXadas software with the DB2 Information Integrator technology it released last spring [QuickLink 36185].

## Oracle Makes Cuts In Marketing . . .

Oracle Corp. confirmed that it has laid off marketing workers but didn't say how many employees were let go. A spokeswoman said the cuts were part of a restructuring after Executive Vice President Chuck Phillips took over as head of the marketing unit. More details will be disclosed when Oracle reports its financial results in early December, she added.

## . . . And Extends Its Offer for PeopleSoft

Meanwhile, Oracle extended through year's end its hostile takeover offer for business applications rival PeopleSoft Inc. Oracle also filed an official notice of the offer for Pleasanton, Calif.-based PeopleSoft with the European Commission for antitrust-review purposes.

MARK HALL ■ ON THE MARK

## Sun, Microsoft Legal Minds Put Windows . . .

. . . users at risk but have thankfully delayed the dangerous days until Sept. 2004. That's when lingering unsecure Microsoft Java Virtual Machines will become hackers' target of choice. While the JVM agreement between Microsoft Corp. and Sun Microsystems Inc. [QuickLink 41927] helps IT departments, it only delays the impending corporate chaos and calamity when unchanged Windows systems go kablooi. That's

what keeps Conchango New York Inc. President Ted Dinsmore awake at night. Or, more likely, his clients. The subsidiary of IT consultancy Conchango Ltd. in Surrey, England, has been sounding the alarm to all of its customers: **Swap out your JVM now.** Come September, Microsoft loses its legal access to the Java source code, so it will never be able to patch its JVM again. Even if Microsoft wanted to assist its best customers with an update during, say, a major security crisis, the deal forbids it. "This is a very scary issue," says Dinsmore. "Millions of machines are involved."

That a security flaw will be found and exploited is inevitable, argues Dinsmore. "Most hackers are Java guys," he says. Perhaps Tom Ridge should send a posse to the next JavaOne conference.

■ Microsoft is being compelled to help in the JVM transition and has the best resource site to help you get it done [QuickLink a3730]. But this potential swap rais-

es an interesting issue. Users that were thinking about moving away from a Java approach to application development and deployment and going with .Net instead might not want to make the shift while they're in crisis mode, ripping and replacing JVMs everywhere. Then again, it may be the motivation that **pushes the .Net transition higher on IT's to-do list.** ■ When you're done worrying about security (yeah, right), you might want to mull over why your global network is so sluggish. Doug Brent, CEO of Packet Design LLC in Palo

Alto, Calif., thinks the best way to get to the bottom of the problem is to start at Level 3, where, he claims, **30% to 50% of network problems originate.** That's where packets get routed and where his company's Route Explorer 2.0 gathers data on how those packets are flying around your seven-layer TCP/IP network. The appliance, which ships today, can present a topology map of actu-

al packet routes, not just device interconnections. Route Explorer can display routing data in real time or for user-defined periods. It supports a variety of Internet routing protocols such as BGP, IS-IS and OSPF. Later this quarter, Packet Design will ship support for Cisco Systems Inc.'s EIGRP. Prices start at \$19,000. ■ With your well-tuned network, users can **buzz on over to Buzzsaw**, a global online collaboration service for construction project managers, from AutoDesk Inc. Version 5 of the service is available today, offering modules with dashboard monitors designed for builders in industries such as retail, manufacturing and health care. ■ But if you're going to sign an ASP agreement to support employees, partners or customers overseas, John Duncan has a word of caution. Duncan is counsel at Nixon Peabody LLP in New York, and in reviewing ASP contracts for his clients, he's noticed something. "They use the terms *royalty* and *license*," he says. Makes sense. ASPs are just software guys with Internet access. **Still, that set off Duncan's tax-law radar** because royalties and licenses can be subject to nations' tax whims. It's best to "substitute the word *service* for *royalty* or *license* in a contract, to protect yourself from rate-hike surprises of tax changes in a nation where you do business," he says. ■ Kelvin Burton, CTO at Mercy Ships, a nonprofit medical relief agency, has concluded that time spent with the beta version of Reactor 5.5, a process control management application from Oak Grove Systems Inc. in Calabasas, Calif., was worthwhile. He says the new version **integrated smoothly with his LDAP directory** and is the best way he has found to keep track of who's doing what among the ever-changing list of staffers and volunteers on projects worldwide. Reactor 5.5 is available for everyone else today at \$10,000 per CPU. ☎ 42170

## iChatUChat

SupportSoft Inc. in Redwood City, Calif., won't release its complete help desk management suite Real Time Service Management Platform 6.0 until Q1 2004. But the first modules ship today, starting with LiveAssist, for high volumes of customer support chat sessions; Knowledge Center, for information self-service; Remote-Assist, which lets technicians control remote PCs; and AutoDiscovery and Metering, which finds hardware and software assets on your network.

## Los Alamos Tries Object-based Storage

BY LUCAS MEARIAN

Los Alamos National Laboratory today plans to announce that it's installing a 1,400-node Linux cluster that uses a new object-based file system technology for data storage.

Gary Grider, manager of scalable I/O systems at Los Alamos, said the lab will use start-up Panasas Inc.'s network-attached storage (NAS) technology to spread file management capabilities across commodity servers while still achieving high levels of computing pow-

er and I/O throughput.

Grider added that the ActiveScale device gives him 4GB/sec. throughput and the ability to store up to 600TB on the planned cluster, which will be used to run simulations of nuclear weapons tests.

Fremont, Calif.-based Panasas plans to introduce ActiveScale today in conjunction with the Los Alamos announcement. Unlike conventional NAS products, which store metadata apart from files, object-based devices like Active-

Stage break files into chunks that include file data, metadata and other information, such as quality-of-service details. Proponents said the technology should speed up the process of accessing files.

Arun Taneja, an analyst at Taneja Group Inc. in Hopkinton, Mass., said that with the market for Linux-based server clusters on the rise, object-based storage could offer users in the scientific community almost limitless data scalability.

The Linux cluster will use

Pentium-based servers priced at about \$2,000, Grider said. Los Alamos has been testing the cluster with ActiveStage for about nine months and now has the production system in place, he added.

Panasas said ActiveScale includes 10 slots for specialized blade servers, each supporting up to 500GB of storage. Pricing starts at \$25,000 for a 1.6TB configuration. ☎ 42179

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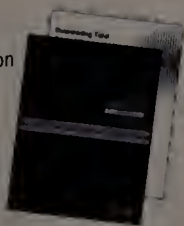
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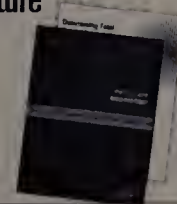
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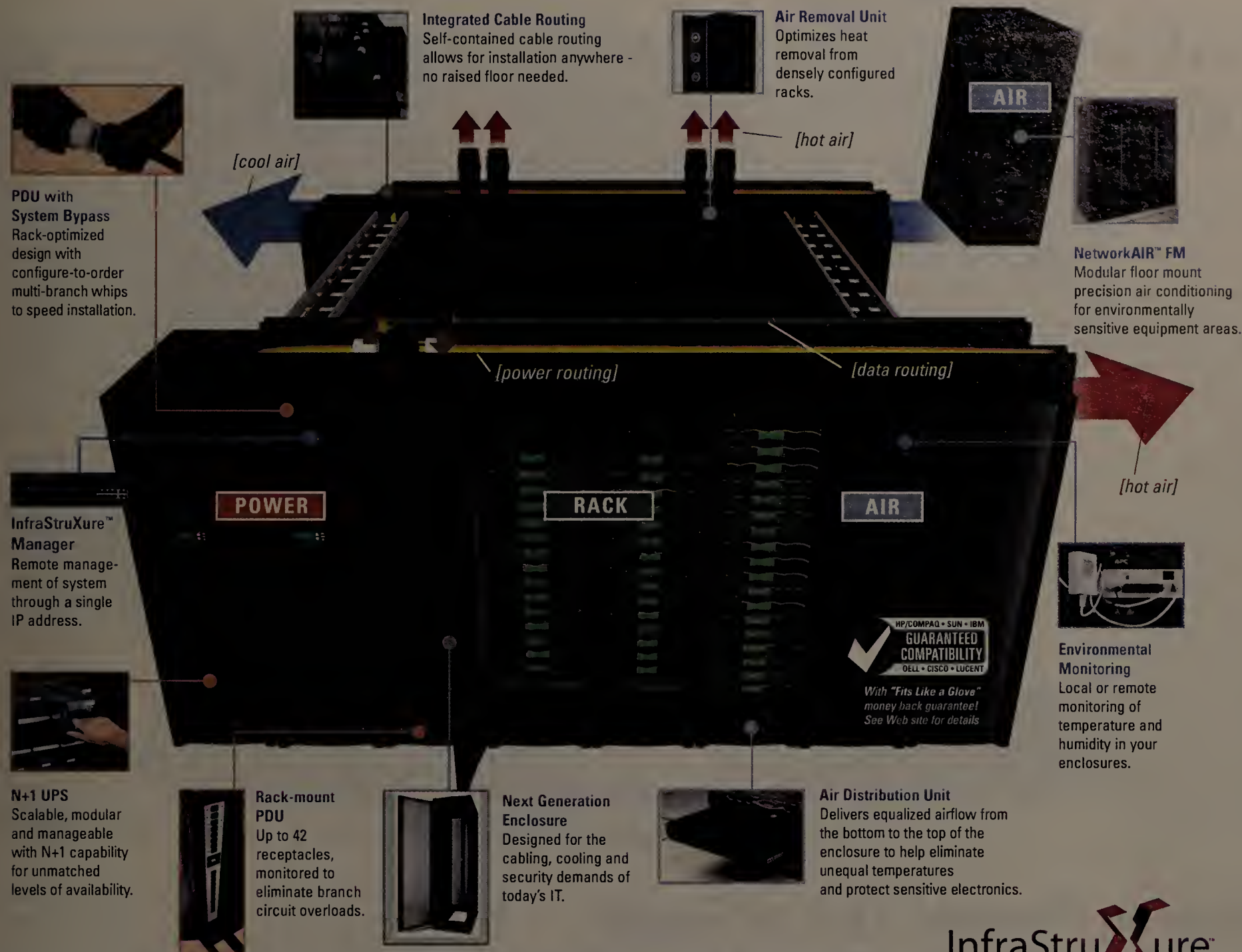
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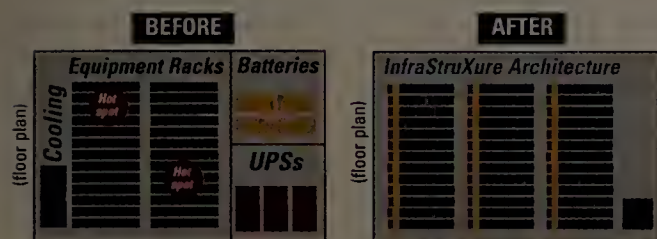




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# Portfolio Management Wins Converts Despite Challenges

Users say financelike approach to IT cuts costs, helps executives evaluate risks

BY THOMAS HOFFMAN  
NEW YORK

SEVERAL EARLY adopters of portfolio management approaches for gauging the value of IT investments said last week that they have achieved strong results after working through cultural acceptance challenges at their companies.

For instance, Mercy Health Partners, which operates six hospitals in the Toledo, Ohio, area, started looking at IT portfolio management three years ago to help evaluate the merits of ongoing and proposed IT projects, said CIO Jim Albin. Mercy Health, a unit of Cincinnati-based Catholic Healthcare Partners, also uses portfolio management techniques to track whether projects are hitting their deadlines and return-on-investment targets.

The 110-person IT staff at Mercy Health fields up to 4,000 project requests each year, and "you don't have time to do ROI [analyses] on all of them," said Albin, who spoke at the Society for Information Management's SIMposium conference here.

To identify the IT projects that are expected to deliver the biggest benefits, the health care provider began applying the same "Buy, Hold and Sell" criteria used by financial investors.

"There's no point in throwing good money after bad," said Albin, who installed an IT portfolio management tool from Pacific Edge Software Inc. in Bellevue, Wash., to support the new approach.

Albin said Mercy Health has

been able to reduce its annual IT costs by \$4 million through steps such as cutting its application development staff and reducing the use of outside contractors. IT managers can also better anticipate which projects will be approved and allocate resources more efficiently, he added.

Other IT managers at the SIM conference said they have also had success with portfolio management practices.

Doreen Wright, CIO at

Campbell Soup Co. in Camden, N.J., said she adopted the IT portfolio approach four years ago at Nabisco Inc. and took a similar

tack after joining Campbell in 2001. "If you've got six \$20 million projects on the table, you can't do them all," she said, explaining the appeal of the technique.

Wright said the biggest challenge she faced at Nabisco was cultural resistance. Fortu-

nately, the company's controller helped champion the methodology, "which made an enormous difference," she said. At Campbell, there were fewer roadblocks because business and IT managers alike "were dying" for a way to simplify IT project decision-making, Wright noted.

Campbell is now better positioned to evaluate the risks of proposed IT projects, according to Wright. She added that portfolio management has also helped the company to "stop these stupid little rogue [IT] projects" that were taking place before she arrived.

Matsushita Electric Corporation of America's Panasonic Co. division in Secaucus, N.J., is installing IT portfolio management software developed by ProSight Inc. in Portland, Ore. The software rollout is designed to further automate portfolio techniques that are already in place at the company, said Steve Adamo, general manager of business systems development at Panasonic.

Like Wright, Adamo cited cultural acceptance as the biggest challenge Panasonic has faced. But that hurdle "pales in comparison to what

## Registering Returns

SIM conference attendees offered these tips for selling IT portfolio management to corporate executives:

- **Describe its merits in business terms**, and start with your chief financial officer or another executive who can quickly grasp the concept.
- **Explain how the approach can help business managers** root out runaway IT projects or ones that aren't delivering the expected ROI.
- **Establish a steering committee** of top business executives and the CIO to evaluate IT investments, if one isn't already in place.
- **Emphasize that portfolio management techniques** can help improve cross-project coordination and communication.

we're able to achieve with our business units," he said. For example, Panasonic's IT staff can now share common metrics with business managers to show whether IT projects are on time and are delivering the anticipated ROI. **Q 42191**

# Wringing Payback Out of Supply Chain Apps Not So Easy, Users Say

BY MARC L. SONGINI  
ORLANDO

IT managers at a conference held here last week by i2 Technologies Inc.'s user group detailed some of the ins and outs of supply chain management projects, including challenges in areas

such as managing software changes and controlling the scope of installations.

Four i2 users said in interviews that they have succeeded at getting paybacks on their investments in the Dallas-based company's applications. But doing so wasn't an easy process, they cautioned.

For example, ON Semicon-

ductor Corp. "invested a lot" in change management procedures and end-user training as part of an i2 rollout that started in 1997, said Ravi Vancheeswaran, manager of supply chain management services, systems and processes at the Phoenix-based

chip maker. "I cannot overstate the amount of change management within i2," he added.

The same applies to training supply chain planners and other workers to use the software. "We were completely changing the way planning was done," Vancheeswaran said.

The software has helped ON increase productivity, en-

abling the company to downsize its supply chain staff and improve the way it handles inventory, Vancheeswaran said.

Thomas Strubel, director of supply chain systems at PSS World Medical Inc. in Jacksonville, Fla., said companies doing supply chain rollouts must keep strict scope-control procedures in place, even if it means limiting the number of features that systems will handle once they're installed.

"If we're going live in two months, you can't throw curve balls outside the scope [of the plan]," Strubel said. PSS, a distributor of medical products, runs the i2 Six suite of applications and has seen improvements in its order-fill rates and

customer service levels since it installed the software.

In an interview at the Directions 2003 conference sponsored by the Atlanta-based i2 User Group, i2 CEO Sanjiv Sidhu said there are "misconceptions" about users' ability to achieve ROI on supply chain projects. But he added that i2 is trying to make it "easier and easier" to use its software.

For example, the company last week announced plans for an applications upgrade that will include a set of prebuilt data workflow processes for connecting operations across various departments within a company.

But for Cindy Cruzado, global director of strategy at WorldWide Retail Exchange LLC in Alexandria, Va., getting end users to agree on the best ways to exploit i2's applications was a bigger challenge than installing the software.

The exchange, which supports business-to-business collaboration between retailers and suppliers, relies on i2's procurement, collaborative planning and content management software.

The installation was complicated by the fact that business processes differ in countries such as, say, the U.S. and Japan, Cruzado said.

She added that to resolve the differences, IT staffers had to get companies that are participants in the exchange "to sit across from their customers and talk about the challenges." **Q 42193**

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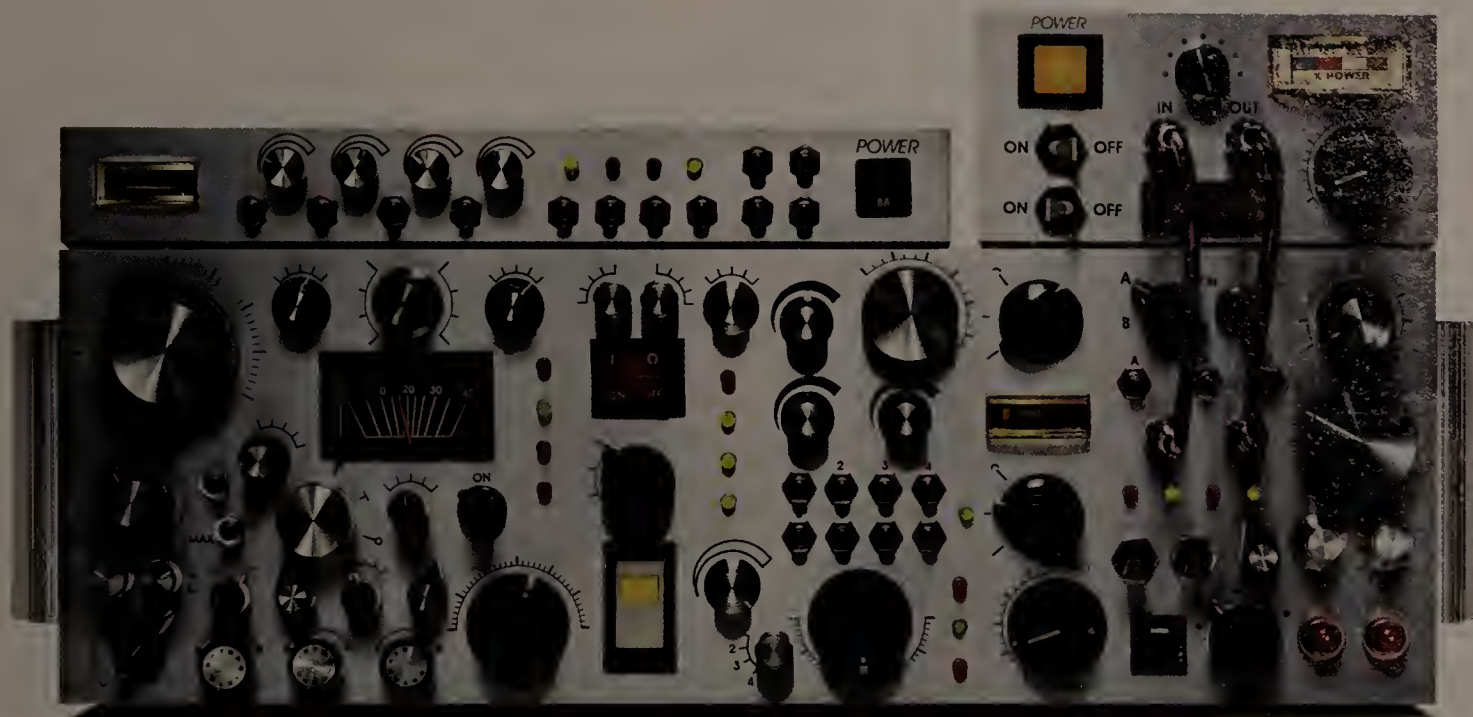
Sanjiv Sidhu, i2's CEO, discusses the company's efforts to increase revenue: **QuickLink 42163**

The company's i2 Six.One software upgrade is due for release in December:

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## BRIEFS

## Siebel Inks Deal for Hosted CRM Apps

Siebel Systems Inc. said it will pay \$70 million in cash to buy UpShot Corp., a Mountain View, Calif.-based vendor of hosted CRM applications. Siebel said it plans to sell UpShot's software in addition to the hosted applications it announced this month with IBM [QuickLink 41873], although the offerings eventually will be converged. Siebel has also bought the assets of Motiva Inc., a Pleasanton, Calif.-based developer of incentive compensation management software.

## IBM, SAP Profit in Q3; Siebel in Red

Among vendors announcing third-quarter financial results, San Mateo, Calif.-based Siebel reported a \$59.3 million loss on revenue of \$321.4 million. IBM said it had a \$1.8 billion profit on \$21.5 billion in revenue. IT spending "remains good, but not robust," said John Joyce, IBM's chief financial officer. SAP AG reported a \$294 million profit on revenue of \$1.93 billion and raised its earnings forecast for the year as a whole.

## Sprint Says GSA Won't Pursue Ban

Sprint Corp. said it has been told by the U.S. General Services Administration that the agency won't seek to bar the company from competing for federal contracts. The GSA had been considering a debarment following a billing error by Sprint on a contract with the U.S. Department of Justice [QuickLink 40494].

## Short Takes

**MYSQL AB** in Uppsala, Sweden, said it's buying clustering software for telecommunications companies and will add the technology to its open-source database next year. . . . **HEWLETT-PACKARD CO.** said CIO Robert Napier died of cancer on Oct. 13. He was 56.

## BMC Boosts Tools for Business Management

Upgrades problem-tracking software, announces deals with five vendors

BY MATT HAMBLIN  
NEW YORK

**B**MC SOFTWARE INC. last week announced a new version of a key IT management tool plus partnerships with five hardware, software and consulting services vendors in a bid to boost the Business Service Management (BSM) strategy it announced in April.

The Service Impact Manager 2.0 software offers an improved Web-based interface to help users search systems for the causes of trouble alerts, said Mary Smars, a product manager at BMC in Houston.

Service Impact Manager tracks how system problems affect business services and is one of the three components of the BSM approach, which is designed to give IT managers a full set of tools for linking computing resources to business priorities and controlling networks from the device level up to the application layer.

During a press conference, BMC CEO Bob Beauchamp cited an example of a European customer who complained that his company needed 50 different management tools to operate its systems. Adopting a BSM approach could help eliminate some tools, Beauchamp said.

"We have a similar problem, and 50 management tools is too many to integrate and to manage. It's a challenge," said Lee Adams, vice president of infrastructure services at Hospital Corporation of America, a Nashville-based company that operates 300 hospitals and medical clinics.

The health care provider has run Patrol for several years and plans to use the technology as a springboard to create better integration between its business services and IT sys-

tems, Adams said. But he will meet with vendors of other management tools as well to weigh their capabilities against BMC's.

Centrica PLC, a utility company in Windsor, England, has used BMC products since 1997, although it also relies on tools from rivals such as Hewlett-Packard Co. The use of management tools to help run systems based on business needs has helped Centrica as it has grown through acquisitions,

said Matthew Burrows, its consultant program manager. "BSM is not a specific tool; it's a philosophy," he noted.

BMC said it has signed BSM-related partnering deals with Accenture Ltd., Dell Inc., EMC Corp., Siebel Systems Inc. and Symantec Corp.

Jean-Pierre Garbani, an analyst at Forrester Research Inc., said BMC "perhaps" has a slight edge over HP, Computer Associates International Inc. and IBM's Tivoli Software unit because of how comprehensive its BSM strategy is. But, he added, "it might not be an edge for long."

## Hospitals Back Off Cisco LEAP Security for WLANs

IT managers opt for multilayered, stronger defenses

BY BOB BREWIN

For some health care IT managers, the vulnerability of Cisco Systems Inc.'s wireless LAN authentication protocol to attacks aimed at discovering passwords is reinforcing the importance of developing multilayered approaches to securing their networks.

Several users last week said they have already adopted or plan to install a mix of WLAN authentication and encryption protocols in order to ensure that their companies comply with the data privacy requirements of the federal Health Insurance Portability and Accountability Act.

Chris Lenaghen, a network engineer at St. Alphonsus Regional Medical Center in Boise, Idaho, said he views Cisco's Lightweight Extensible Authentication Protocol (LEAP) as "a temporary solution" until the hospital can install an updated version of Novell Inc.'s

Extend Director software.

The Novell software supports the Lightweight Directory Access Protocol (LDAP), which Lenaghen said should make it harder for malicious hackers to run so-called dictionary attacks against the hospital's WLAN. St. Alphonsus will speed up its move from LEAP to LDAP because of the Cisco technology's vulnerability, Lenaghen added.

Cisco disclosed in early August that LEAP could be compromised by dictionary attacks.

At a conference earlier this month, Joshua Wright, a systems engineer at Johnson & Wales University in Providence, R.I., demonstrated such an attack using a tool he developed [QuickLink 41843].

In an interview last week, Wright said he plans to make the attack tool publicly available in February.

Gene Gretzer, a senior analyst and project leader for access technologies at St. Luke's

Episcopal Health System in Houston, said the health care provider uses LEAP to help secure 100 wireless access point devices made by Cisco. But St. Luke's also controls WLAN access through a database of Media Access Control (MAC) addresses and use of the Advanced Encryption Standard.

Miami Children's Hospital in Coral Gables, Fla., has taken a layered approach to WLAN security as well, said Alex Naveira, its chief information

security officer. In addition to LEAP, the hospital is using MAC address authentication and 128-bit Secure Sockets Layer encryption, he said.

Ron Seide, prod-

uct line manager at Cisco's wireless business unit, agreed that many organizations need stronger authentication capabilities than LEAP provides.

He said Cisco recommends that such users install the Protected Extensible Authentication Protocol (PEAP), which relies on digital certificates to control network access. PEAP was co-developed by Cisco, Microsoft Corp. and RSA Security Inc. **42192**

## ON THE ATTACK

The author of a tool for cracking LEAP-protected WLANs says users should be aware of the risks of using the protocol.

**QuickLink 42186**  
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**“Fifty management tools is too many to integrate and to manage. It's a challenge.”**

**LEE ADAMS**, vice president of infrastructure services, Hospital Corporation of America



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Continued from page 1

## Cybersecurity

the deployment of CIDDAC sensors "very positively" from an underwriting standpoint.

"We are prepared to offer lower rates to those companies that, in addition to other industry-standard security protocols, deploy the CIDDAC sensing technology," Parisi said. "We recognize that companies that add the additional layer of security provided by CIDDAC are at less risk of suffering costly network-security breaches."

The goal is to deploy what CIDDAC calls Real-time Cyber Attack Detection Sensors, or RCADS, throughout as many U.S. companies as possible — and eventually the world — and feed incident data to a centrally managed operations facility at the University of Pennsylvania in Philadelphia.

Although it has maintained a low profile to date, CIDDAC is the result of a volunteer effort by various private-sector

IT companies and other firms, along with the Philadelphia InfraGard chapter. InfraGard is an FBI-sponsored program designed to help companies in the private sector share security information with one another and the government.

The consortium has developed what it claims is a technical solution to the private sector's primary concern about information sharing: government access to proprietary data. "We have a way to gather the appropriate information on cyberattacks and security incidents without digging through production data," said Charles "Buck" Fleming, acting executive director of CIDDAC and CEO of AdminForce LLC in Boulder, Colo.

CIDDAC is operating a prototype monitoring and operations center at facilities owned by AdminForce.

"The RCADS sits outside of a company's production network and looks like another computer on the network," Fleming said. "It then identifies security incidents and profiles the attack signature without the company having to worry about the government looking inside their internal network."

The concern about government having access to data remains a serious impediment to information sharing between it and the private sector, which owns and operates more than 85% of the nation's critical infrastructures.

In fact, more than a dozen CIOs from the electric and natural gas industries who attended an executive conference last week in Tampa said their companies don't belong to a formal government-sponsored information-sharing and analysis center, primarily because of fears that proprietary data wouldn't be protected.

"There has to be private-sector control [of the data] if the answer to the information-sharing problem is going to be found," said Fleming.

Although the DHS recently announced plans to build its own Real-Time Cyber Situation Awareness System that would initially monitor gov-

ernment networks in real time, Fleming said it's based on a "faulty, weak legacy."

"The proposed DHS solution center will deal with production data initially generated by government activities," Fleming wrote in a letter to CIDDAC members. "The plan is to lead by government example and have the private sector join with their data contributing down the road. There is no chance of this happening. . . . The continuing failure of DHS to understand these basic [privacy] requirements is distressing."

The DHS didn't return calls seeking comment.

Alan Paller, director of re-

search at the SANS Institute, said RCADS is a great idea, but he called Fleming's "attack" on the DHS proposal off-base. Rather than competing with each other, the DHS — whose system will feed data to the CERT Coordination Center at Carnegie Mellon University — and CIDDAC need to work together, he said.

Paller explained that both systems will be part of a much larger array of similar systems that will collect enough data to pick up early indications of massive worm outbreaks and possibly coordinated attacks on infrastructures.

"More of these networks means more watchfulness and

more data," he said.

Special Agent John Chesson, the FBI's Philadelphia InfraGard coordinator, said CIDDAC addresses the private sector's need for a computer-intrusion and automated incident reporting system that manages data in a "privacy-sensitive" manner.

"The initial hope was that InfraGard would serve as a two-way communications [hub] between private industry and the government," said Chesson. However, "the information sharing has been mostly one way," in the form of DHS reports being sent to InfraGard chapters, Chesson said. **42188**

## Oracle Adds ID Security To Database, App Server

BY JAIKUMAR VIJAYAN

Tapping into growing demand for identity management technologies, Oracle Corp. last week announced software components for more secure management of user access to Web and client/server applications.

Oracle's new Identity Management software is intended to help companies create user identity profiles and security services for single sign-on access to Oracle applications. Oracle plans to extend those services to third-party applications, but company officials didn't specify a time frame.

The software, which is integrated with Oracle's database and application server products, supports user provisioning services for automatically creating, managing and revoking user accounts.

Such capabilities are crucial for reducing the complexity and costs associated with managing user identities across many applications, said Peter Moser, a project manager at Swisscom IT Services, a telecommunications provider in Bern, Switzerland.

Moser's group used a beta version of Oracle's Identity Management product in a massive portal project for

### NEW PRODUCT

#### Oracle Identity Management

LDAP directory services for storing and managing user identities and access privileges

Web single sign-on

Automated user provisioning

Directory integration service to tie Oracle's Identity Management software with existing corporate directory technology

Swisscom's enterprise services group. The group is consolidating four portals into one site that can be accessed by more than 18,000 internal users and 50,000 external users. Using the Oracle technology, Swisscom built a central identity repository for enabling single sign-on to all the applications that can be accessed via the portal, Moser said.

"Oracle is very much on the right track with this. I hope they continue in this direction," Moser said.

But there are some caveats, said Chris Christiansen, an analyst at IDC in Framingham,

Mass. For instance, Oracle's initial version of the software works only in an all-Oracle application environment, he said. The integration of the identity management functionality into Oracle's database product also means security administrators may need to acquire some new skills, Christiansen said. "Users have to be careful to what degree they buy into the Oracle solution," he added. "In some respects, it requires IT security people to gain database administration skills."

Oracle is only one of a number of vendors responding to user demand for identity management technologies.

Just last week, for instance, BEA Systems Inc. in San Jose rolled out identity management software designed to let companies enable single sign-on across both Web and legacy applications.

The Burlington Northern and Santa Fe Railway Co. in Fort Worth, Texas, is using identity management software from Waveset Technologies Inc. in Austin to provision application access to nearly 100,000 user accounts.

The software has allowed the company to cut in half the time it takes to create new user accounts and remove ones no longer in use, said Rick Perry, director of enterprise security at Burlington Northern Santa Fe. **42177**

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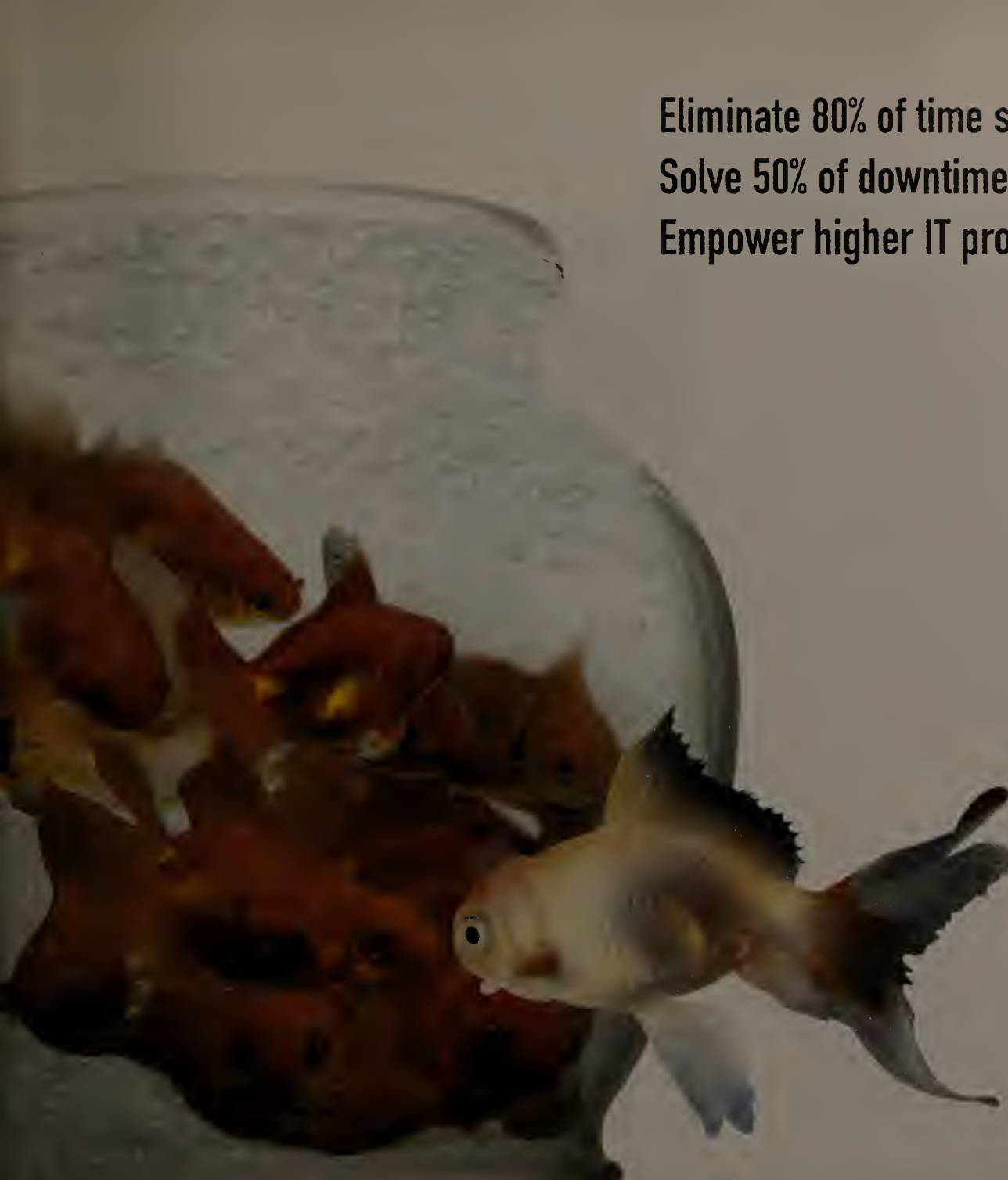
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Continued from page 1

## Office System

Whether the Office System approach will resonate with the majority of Microsoft's corporate customers, who are accustomed to a more lean Office upgrade, is unclear. A collection of early adopters and companies that are plotting migrations have expressed enthusiasm about the upgrade, particularly the more tightly integrated SharePoint Services that will enable collaboration on documents and projects.

Among them is Hawaiian Electric Co. in Honolulu. "The variety of collaboration tools has the possibility of transforming some of our business practices," said Les McCarter, director of IT infrastructure and operations.

But other companies said they have yet to do a careful study of the new Office System. Bill Lewkowski, CIO at Metropolitan Health Corp. in Grand Rapids, Mich., for one, said he doesn't have a clear understanding of it and it's becoming "very confusing."

"We need to take our time

to determine if the sharing and collaborative features are worth the effort to purchase, install and manage," he said. "This is bringing extra complexity into our environment, when we need to be focusing our efforts on our business applications and processes."

Lewkowski said his company currently uses Office 2000 and doesn't require many of the upgrade's new features. He added that he doesn't want to get into a cycle of purchasing Office every two years and having to buy client-access licenses for new server-based services.

Zeke Duge, CIO at Smart & Final Stores Corp. in Commerce, Calif., said Microsoft's Office System strategy appears to be an attempt to "combat the presence of competing solutions by wrapping up the customer so that best-of-breed solutions are not viable." Yet Duge said his company will probably "be forced" to upgrade next year from Office 2000. Smart & Final wants to take advantage of Office System 2003's XML support, Duge said, since the company uses XML for data interchange

through messaging software from Tibco Software Inc. in Palo Alto, Calif.

Mike Silver, an analyst at Gartner Inc. in Stamford, Conn., said he doubts that Office 2003 will have a 10% installed base before 2005. He said the product requires considerable testing with third-party applications, macros and databases, adding that Microsoft has done a poor job of helping companies understand what they need to test for and what kinds of macros and functions are affected by the upgrade.

Mike Gotta, an analyst at Meta Group Inc., also in Stamford, predicted that about 30% of corporations will migrate to Office 2003 in the next two years, and 15% to 20% of corporations will reject it outright. There will be a dogfight among the rest, he said.

"It's a big decision," Gotta said, adding that a company's architecture group must get involved if it's considering Office System as opposed to the "classic" Office.

The primary reason why Hawaiian Electric plans to migrate from Office 2000 to Of-

## Microsoft Office System 2003

**Core Programs:** Word, Excel, Outlook, PowerPoint, Access, FrontPage, OneNote, Publisher, Project, Visio, InfoPath

**Servers:** Exchange Server, Project Server, SharePoint Portal Server, Live Communications Server

**Services:** Live Meeting

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ice 2003 in the first quarter of next year is that it skipped the Windows XP edition. "We don't want to get too far behind on the upgrades because of security issues," said McCarter.

But he said the migration will be worth the effort because of the bonus the company will get with the better-integrated SharePoint Services. He said employees now drop information into file shares, where files tend to hang indefinitely. With the new Office and SharePoint,

users can save files to a common workgroup site with no extra effort, McCarter said.

Steve Sommer, the CIO at Hughes Hubbard & Reed LLP, a law firm in New York, said he used to view Office as "a bunch of integrated programs that worked together quite well." He now sees Office as an integrated product that his firm will couple with integrated servers and other applications.

Of particular interest to Sommer are the SharePoint Services; information rights management for controlling access to documents; and InfoPath, a new product that lets users create XML-based forms and submit them to XML-enabled systems.

"I am probably not going to love the related training and administration that might be the excess baggage that comes with such a feature-laden product," Sommer said. He also expressed concern that "there might be more bugs than usual."

"The product could be a great leap forward... or a great ball of confusion," he said. "They need to stay on top of this from Day 1." **42202**

## Early Office 2003 Adopters Applaud Project, Document Management Upgrades

Project and document management improvements to core components of Office System 2003 were the allure that compelled Continental Airlines Inc. and Recreational Equipment Inc. (REI) to sign up for Microsoft Corp.'s Rapid Adoption Program.

One hundred employees in the enterprise program office at Continental had been using Microsoft's Project Server for the previous 15 months, but the airline had qualms about rolling the product out companywide to 5,000 employees, according to Blake Burke, managing director of technology for Houston-based Continental.

Burke said the scalability was suspect and the response time was slow for remote users con-

necting via dial-up or VPN, so the company considered alternative products. But Continental elected to stick with Microsoft once it learned that the software maker was addressing those issues in the new version of Project Server that's part of Office System 2003.

The airline's IT department has since noted other improvements while testing a beta version of Project Server 2003. Most notably, Continental can now associate an employee, or a named resource, with a specific task, such as building a server, Burke said.

That will ultimately allow the IT department and other parts of the company to better manage its resources. For instance, the company can associate a specif-

ic skill set, such as C++ programming skills, with a named resource, Burke noted.

"This product allows us to put the emphasis on the right side of the influence curve, so we're now proactive rather than reactive as it relates to the deployment of resources, people and assets," Burke said.

Kevin Myette, director of business operations at REI, said his company expects to be able to take on more projects and execute them with greater consistency as a result of its use of a collection of Office System products. The Kent, Wash.-based retailer oversees the creation of more than 1,100 REI-branded products and typically takes on about 600 projects per year, he said.

REI uses software from Apprentice Systems Inc. in conjunction with Microsoft's Visio diagramming tool, which is part of the Office System, to map out the process of creating a product, such as a backpack. The work is then passed to Microsoft's Project Professional client, resources are assigned and the project is published to Project Server, Myette said.

Two more linked Office System components, Outlook and Exchange Server, then kick in, allowing employees to view their tasks as items in Outlook; Windows SharePoint Services will assist with document management and collaboration, Myette said. The XML support in new versions of Word and Excel and the XML-based forms that come with the Office System's new InfoPath component will also help with the management of data around projects, he added.

InfoPath was the most important new Office System addition for Digitas LLC, a Boston-based marketing agency, according to Erik Dubovik, vice president and director of IT.

Digitas employees had been filling out Microsoft Word templates and mailing them or hand-delivering them to the finance department to start up a new business project - the first step to enable them to bill time and materials to a client.

Dubovik said it was relatively simple, with assistance from a systems integrator, to convert the Word template to an XML-based InfoPath template. The data can now flow to other XML-enabled systems, such as the company's ERP and professional services automation systems.

"I tell people it's Microsoft Word templates on steroids," Dubovik said.

- Carol Sliwa



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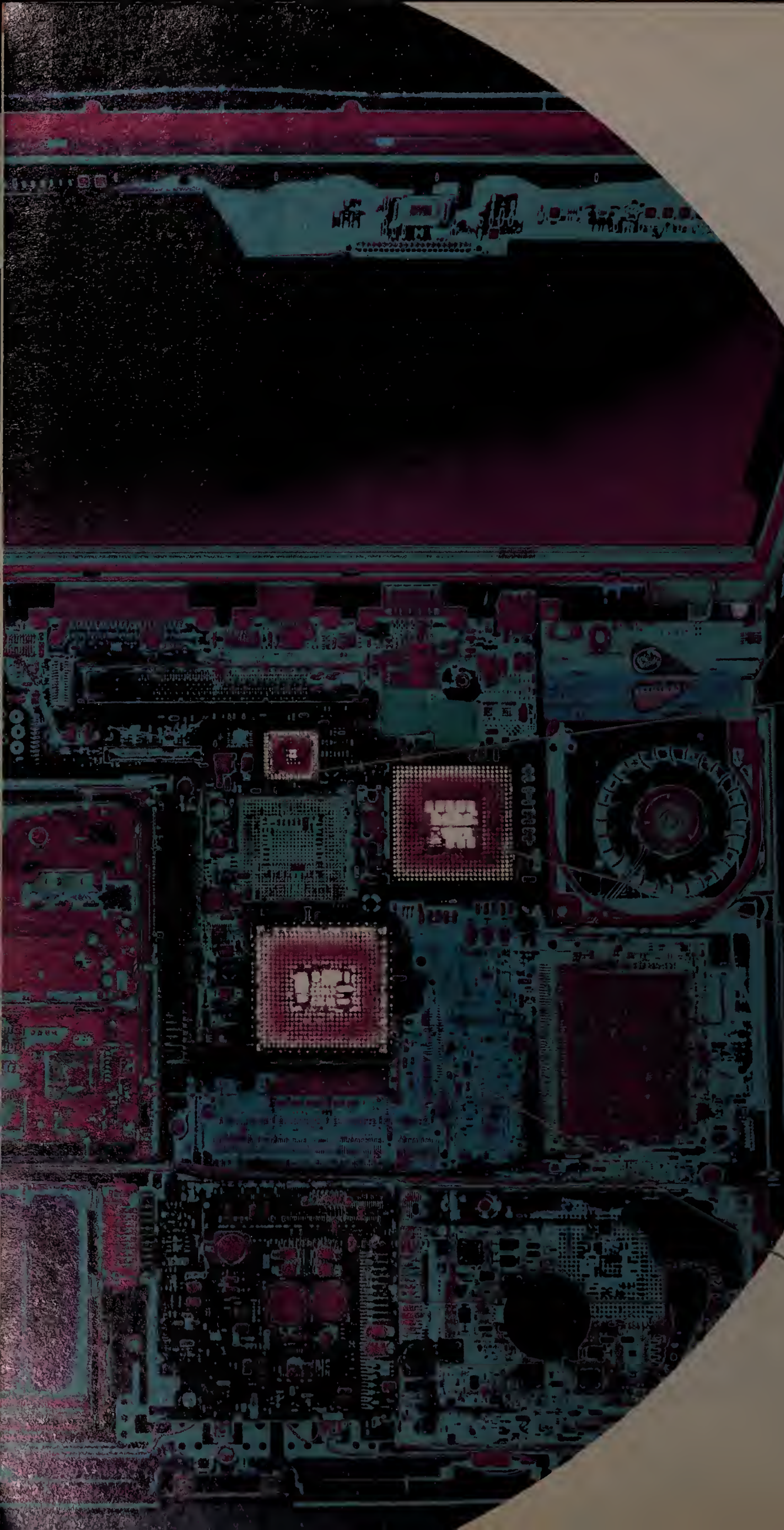
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# EMC Adds Content Tools to Storage Product Line

Expands its software offerings by agreeing to buy Documentum

BY TODD R. WEISS

EMC Corp. last week announced an agreement to buy content management software vendor Documentum Inc., saying that the acquisition will make it easier for users of EMC's storage devices to manage electronic documents and other forms of unstructured data.

The planned purchase of Pleasanton, Calif.-based Documentum is EMC's second major acquisition since July, when it agreed to buy storage management tools vendor Legato Systems Inc. [QuickLink 39749]. The two moves are key parts of a plan by EMC to offer an integrated set of tools for managing

data throughout its life cycle.

Robert Terdeman, chief technical officer at Rogers Medical Intelligence Solutions in New York, uses EMC's Centera fixed-data disk array with Documentum's software and said he "can't see any downside at all" to the planned acquisition. The combination should give Documentum broader appeal among corporate users, he said. "It also repositions EMC into the world of really managing information, as opposed to managing data," he noted.

The deal was also welcome news to Lev Gonick, CIO at Case Western Reserve University in Cleveland. Case Western now will be able to tightly integrate its EMC storage hardware with content management tools if it decides to install the latter technology, he said. "We certainly have flirted with using

## Documentum Overview

- **PRODUCTS:** Software that automates the management of documents, records, Web content and digital assets.
- **REVENUE:** \$135.2 million in the first half of this year; \$73.5 million expected for Q3.

Documentum," Gonick said. "We're all the more interested now. It's the kind of thing we've been asking EMC for." He added that there previously was "a significant disconnect" between products like the ones from Documentum and the EMC-built Clariion disk arrays and Celerra file servers that Case Western uses.

Hopkinton, Mass.-based EMC didn't disclose specific product-integration plans but said the acquisition, a stock-swap deal valued at about \$1.7 billion

at current prices, will let it incorporate Documentum's tools with arrays other than Centera plus its data protection and storage management software.

Peter O'Kelly, an analyst at Patricia Seybold Group Inc. in Boston, said the deal could make it easier for IT managers to address problems in organizing data and making it available to end users. It also "significantly changes the competitive landscape for enterprise content management," he said.

The acquisition is due to be completed early next year. Mark Lewis, vice president of EMC's open software operations, said Documentum will become a division of EMC and continue to be run by its current management. EMC promised that Documentum's software will continue to be sold for use with rival storage systems and that its application programming interfaces will remain open. "Our objective is to sell value-added layers . . . not to lock those layers together so the customer has no choice," Lewis said. **Q 42145**

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## Citrix CEO Discusses Linux, Licensing

BY DON TENNANT

Application access software vendor Citrix Systems Inc. held its iForum user conference in Orlando last week. In an interview with Computerworld, Citrix CEO Mark Templeton discussed his Linux strategy and the Fort Lauderdale, Fla., company's attempt to respond to users' concerns about its licensing schemes. Excerpts follow:

Citrix has been joined at the hip with Microsoft for well over a decade. Given that Microsoft sees Linux as a competitive threat, do you see Linux as a threat or an opportunity? Neither. We see it as just another part of the application infrastructure complexity that customers deal with. Our role is to make sure we stay focused on our goal to provide customers with a suite of products that allow them to deal with that complexity.

What are the prospects that Citrix will offer a MetaFrame Presentation Server for Linux? It's possible. We already offer a MetaFrame Presentation Server for other variations of Unix — Solaris, AIX and HP-UX. So from a technical perspective, there's no obstacle in any way, shape or form there.

Is Microsoft an obstacle? They're not, because this is about doing what customers need for access. What customers need really drives what we

build. But the fact of the matter is there aren't any widely accepted applications at the user tier where applications are accessed that are built on Linux. And there are very few on Unix anymore.

At last year's iForum, you told us that Citrix's licensing was too complicated, that the company was working on technology to solve the problem, and that you would present the technology to users in about a year


[QuickLink 34266]. How's it coming? The technology-based approach that I promised, we demonstrated yesterday morning. We demonstrated an access suite licensing service that we'll release next year. The licensing service basically allows IT to have one place to go to see all of the licenses that they own, where they are and their utilization.

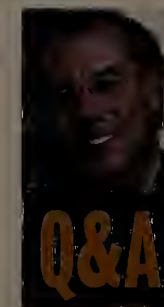
They can optimize the utilization of licenses so they can buy more when they need more, not when they guess they need more.

You said it would be ready next year. Can you nail that down at all? I can't right now. I've got all kinds of guys on my butt that tell me I can't say. **Q 42144**

### MORE ONLINE

To read the full interview with Templeton, visit our Web site:

 QuickLink 42140  
www.computerworld.com





## Elance Upgrades Procurement Software

BY MATT HAMBLIN

Elance Inc. last week launched an upgrade of its services procurement and management software, adding bill-of-services functionality that it said can provide users with more detailed information about contract costs and service-level agreements.

The Elance SPM 4 software is designed to automate and streamline the purchasing of services ranging from consulting help to office cleaning and maintenance, said Diana Jovin, vice president of marketing at Elance in Sunnyvale, Calif.

Motorola Inc. installed Elance SPM 4 last month as an early adopter. Dennis Neumann, director of indirect e-procurement at Motorola, said the software will be used by some of the 20,000 workers who are authorized to buy services for the company.

Until now, Motorola's business units purchased services separately, without a companywide view of contract information, Neumann said. That meant a cleaning contractor could have multiple agreements with different divisions all paying different rates. "It's to the benefit of the vendors to divide and conquer," Neumann noted. But with Elance SPM 4, Motorola's buyers can quickly find out if corporate or regional contracts have been negotiated, he said.

### Breakdowns

The software also provides details about contracts beyond their overall cost, he said. For example, it can tell end users the percentage of a consulting contract that went toward labor costs as opposed to other expenses, such as travel.

Neumann said the software could help Motorola reduce the cost of services contracts by 10% to 20%. It takes about two hours to train a procurement manager to use Elance's tools, he said.

Adopting the software represents a "culture change," he added. "It's a big challenge to get used to understanding it

and using a lot of the benefits."

The savings from using services procurement software can total as much as 30% be-

cause such contracts are typically "so poorly managed," said Christa Degnan, an analyst at Aberdeen Group Inc.

She said that up to half of all services contracts aren't controlled by procurement departments and that about 25% of companies have no formal procedures for buying services.

Elance SPM 4 runs on Sun

Solaris servers and is available as a product or a managed service, with prices starting at \$500,000. Elance competes with Ariba Inc., PeopleSoft Inc. and several small vendors, Degnan said. **■ 41995**

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MARYFRAN JOHNSON

# Ethics and Influence

**S**HOW US YOUR ETHICS, or we'll show you the door. Earn back our trust in your objectivity. Prove the value of your research to our businesses today.

Those were the core messages that some of you delivered to IT market research firms in *Computerworld's* user survey on the ethics and disclosure policies of IT research firms [QuickLink 42031]. A substantial 87% of 133 senior IT managers we surveyed said yes, they have questioned the statistical value or integrity of market research.

The same percentage said yes, they want "published, clearly stated ethics policies governing the vendor/client relationships" from analyst firms such as Aberdeen Group, AMR Research, Forrester Research, Gartner, IDC and Meta Group.

IT executives are issuing a clear message. They want greater disclosure about the financial relationships between vendors and market researchers. "Like any other companies, I understand that [IT research firms] have to go after different sources of funding," said Cathy Brune, CTO at Allstate Insurance. "But they need to be honest about saying who pays for the research."

To their credit, both Forrester and Aberdeen responded to criticisms about "praise-for-pay" business practices with immediate changes. Forrester is no longer letting vendors that sponsor research then publicize the results, as recently happened with Microsoft and PeopleSoft. Aberdeen will start posting an ethics policy online and disclosing sources of research funding.

The other firms we spoke to for our report — including *Computerworld's* sister company IDC — all clarified the rules of engagement on how their research is funded. They also took pains to address vendor-



MARYFRAN JOHNSON is editor in chief of *Computerworld*. You can contact her at maryfran.johnson@computerworld.com.

sponsored research, which they recognize as the greatest potential conflict of interests and threat to their integrity. Once lost, user trust in the validity of their research would be forever gone.

Some of the IT executives we interviewed also raised the specter of analysts wielding undue influence over how a

fledgling technology market develops. IT researchers "can tout a particular product and have their subscribers go in that direction at the cost of some very good products and services that don't get the support they deserve," said Bruce Fadem, CIO at pharmaceutical company Wyeth.

Bottom line: Everyone in this industry should continue to question the source and veracity of information about technology. Hopefully, this heightened awareness of how

IT research is conducted will help.

One final note on this topic: Last month, when I first wrote about analyst credibility problems ["A Question of Credibility," QuickLink 41489], I cited Nucleus Research as an unusual example of an independent research firm that relied "entirely on its user client subscription and accepts no vendor business." That was inaccurate (my mistake), and I overstated the case.

"We don't do any custom or commissioned work for vendors," said CEO Ian Campbell, "but to say we never take money from vendors is not quite right." Nucleus sells its subscription service only to users, but vendors and other interested parties can buy reprints of the company's ROI reports and case studies. So a percentage of its revenue may come from vendor sources.

Campbell added that vendors also refer their customers to Nucleus to conduct ROI studies for them. In some cases, the vendors have paid for that research on behalf of those customers, although a nondisclosure agreement is always signed with the user. "There's no question about whom we're working for," he added.

Seems like a good thing for everyone to keep in mind. **42153**

PIMM FOX

## Enliven Your Help Desk Operations

**A**DMIT IT. When you think about the help desk, you think, Boring!

The prevailing image is of a Kafkaesque warren of gray cubicles, populated by a crisis-driven, frantically overworked staff who experience endless Dilbert-like encounters. From the end user's angle, dealing with the help desk means being sucked into a death spiral of incomplete trouble tickets.

That's the old, one-dimensional, soulless help desk operation.

But a new technology-led, enlightened and beefed-up help desk system has been adopted by American Airlines Federal Credit Union in Fort Worth, Texas. Instead of the credit union's IT department having to scramble in response to each user crisis, it now uses help desk software to manage user requests and internal projects, says MIS supervisor Jesse Davis. "We've gone from a 2-ft.-by-5-ft.

whiteboard to software with user profiles, query functions and easy output to Excel files to spot trends," he says.

Want to know the top five problems of the week to see if you are repeatedly responding to the same one? It's easy to get a graphical representation. Need to add a field for training issues? With the software, it's no problem to create new ones.

The software is HelpStar from Mississauga, Ontario-based Help Desk Technology International Corp. It generates reports that form many of the talking points for the credit union's Monday morning IT meetings.

The system is a boon for both IT managers and end users. For example, when a new branch is in the works (the credit union has 40), IT managers log onto the help desk system to see the schedule of all IT projects associated with the opening.

From the other side, "a loan officer might log on and report a problem







## Profiles of Ten Award-Winning Solutions



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# Dear Reader,

October 20, 2003



**Duane Zitzner**  
Executive  
Vice President,  
HP Personal  
Systems Group  
Hewlett-Packard  
Company

**H**ewlett-Packard is pleased to participate in Computerworld's Mobile and Wireless "Knowledge Center" issue and to profile the winners of the 2003 "Best Practices in Mobile & Wireless" Awards Program. Winners have distinguished themselves as innovators, and by sharing their success stories with other IT managers, they inspire similar winning solutions. HP is proud to have sponsored this prestigious awards program.

I would also like to acknowledge and thank the many companies, public relations firms, agencies, other organizations and individuals who took the time to respond to the nomination submission process. Narrowing the field down to 100 finalists was a difficult challenge.

Additionally, HP would like to extend its thanks to the judges who had the arduous task of selecting winners and honorable mention designates. HP and Computerworld are most appreciative for your dedication to this program.

I hope that the profiles of the ten winners in this supplement will help you to identify the challenges that you face and enable you to derive benefits from the deployment of mobile and wireless technology. These exciting and innovative technologies are creating avenues to meet business, administrative and customer service challenges.

Once again, congratulations to the winners of this program and best of luck to you and all readers of this Special Supplement in your future IT solution endeavors.

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Office - Combat Systems  
Putnam Investments

*Honorable Mention: Cox Communications*

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Motorola Inc.

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Santa Fe Railway Co.  
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Supplement compiled by Brian Sullivan, Computerworld Custom Publishing contributing editor. Judging criteria and other program information is available online at [www.mwwusa.com](http://www.mwwusa.com).

Mobile & Wireless World Conference: May 24-27, 2004



# Systems Implementation

## Company Overview

### U.S. Army's Program Management Office — Combat Systems

PM Combat Systems,  
Systems Engineering Division,  
System Integration Branch  
Attn: SFAE-GCS-CS-S  
MS 506  
6501 East, 11 Mile  
Bldg. 229, 4th Floor  
Warren, MI 48397-5000

#### URL:

[www.peogcs.army.mil/  
about.cfm](http://www.peogcs.army.mil/about.cfm)

#### Established:

1965

#### Number of Employees:

150

#### Business Profile:

The group is charged with enhancing the capabilities of armored combat crews without adding to their burden. With a budget of over \$500,000, the group must deliver a reliable and workable solution in extremely harsh conditions.

#### Deployment History:

The Abrams M1A2 SEP and Bradley M2A3 were used as the proof-of-principle technology for integrated platforms that will be used to feed into other efforts such as the Interim Armored Vehicle Program, the Future Combat System and the Objective Warrior Program.



Abrams Team  
Project Champions

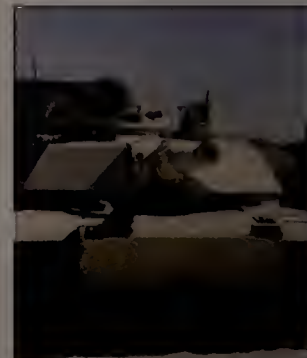
### The U.S. Army's Program Management Office — Combat Systems

The Program Management Office — Combat Systems takes a total army perspective in managing the development, acquisition, testing, systems integration, product improvement and fielding of the Abrams Tank Systems and Bradley Fighting Vehicles. Its task is to provide world-class equipment to the armored soldier, permitting him to achieve decisive victory.

#### Challenges

The goal was to give armored fighting commanders the ability to command from either inside or outside the vehicle without ever breaking visual contact with the enemy or adding to the burden of the crew.

Since digital Situational Awareness became available for armored fighting vehicle crews, those crews have been asking for ways to improve battle command on the move and command-and-control capabilities while in action. Currently, armored commanders must get down inside the vehicle and thus lose their overall view of the outside combat picture.



#### Solution

The Objective Integrated Combat, Command and Control (IC3) program implemented by the PM Combat Systems group allows commanders to receive battlefield data through a secure wireless LAN and interact with that data without ever losing sight of the enemy.

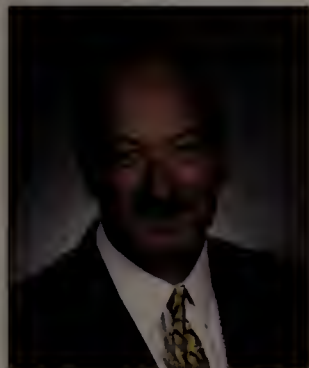
#### Benefits

Commanders can receive crucial data on a helmet-mounted display, which means they never have to lose the enemy visually. The commander can also interact with that data via a tactical voice-activated system, which allows the commander to communicate with other units, including fire missions, medical evacuation and supporting arms liaison teams. The program reduces the armored crews' burden, improves the soldier-machine interface and can be used whether the commander is tethered to the vehicle or not. All in all, the program offers armored crews a tactical edge in combat.





Recognizes the successful design, implementation and management of an interoperable mobile and wireless architecture. Demonstrates the ability to source/implement from multiple vendors and to maintain a heterogeneous environment.



Kurt Zimmer  
Project Champion

## Putnam Investments

Putnam Investments is a global money management firm with 65 years of investment experience, \$271 billion in assets under management, over 700 institutional clients, and nearly 13 million shareholders and retirement plan participants.

### Challenges

The IT organization must support a mobile workforce of wholesalers who spend up to 80% of their time on the road and have limited access to computer networks and enterprise applications. These wholesalers are critical in helping

Putnam differentiate its products from those of its competitors and in ensuring that financial advisors recommend Putnam's mutual funds. Putnam targeted three key areas to meet its goals:

- Ensure that wholesalers knew their advisors well and were able to improve service to them.
- Reduce the administrative load on inside sales representatives.
- Provide better management control of the sales process.

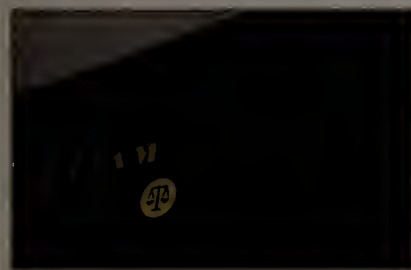
### Solution

Putnam chose a mixture of products from several different vendors for devices and device management software. The hybrid solution allowed Putnam's staff to access the company's email and CRM and sales programs. Putnam's sales force is now able to manage contact, sales data and reports; track account activity; and address other key business functions in a two-way data exchange with Putnam's enterprise systems.

### Benefits

Wholesalers have logged more than 60,000 contract activities through their PDAs since the program was rolled out late last year. User adoption is over 90% in an audience that was traditionally tough on new technology. Sales management noted several key benefits, including improved wholesaler efficiency, fewer calls to inside sales and more consistent tracking of field sales activity.

Future activities include upgrading the entire process with the latest vendor offerings and rolling the program out to the international sales team.



## Company Overview

### Putnam Investments

One Post Office Square  
Boston, MA 02109

### URL:

[www.putnam.com](http://www.putnam.com)

### Established:

1938

### Business Profile:

Putnam Investments is a global money management firm with \$271 billion in assets under management, over 700 institutional clients, and nearly 13 million shareholders and retirement plan participants. It offers a broad range of investment products including institutional portfolios; 401(k)s, IRAs and other retirement plans; mutual funds; variable annuities; and alternative investments for institutions and high-net-worth investors.

### Deployment History:

The project began with a production pilot rollout to 12 wholesalers, serving as a test group to gauge the interest of the sales team and usefulness of the technology. The pilot went live in 10 weeks and was met with strong positive feedback. The rollout continued to the full sales team in December.

**PUTNAM  
INVESTMENTS**





# Systems Reliability

## Company Overview

### Guidant Corp.

111 Monument Circle, #2900  
Indianapolis, IN 46204

### URL:

[www.guidant.com](http://www.guidant.com)

### Established:

1994

### Number of Employees:

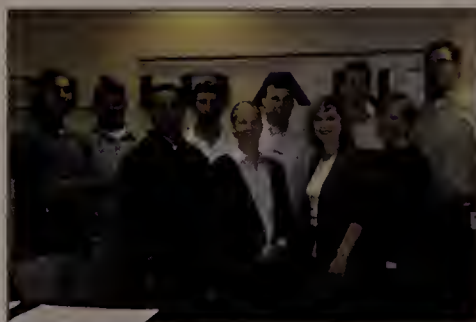
12,000

### Business Profile:

Guidant develops, manufactures and distributes medical technologies to treat cardiovascular and vascular disease. Its therapies save and improve the lives of thousands of patients around the world every day. Guidant was incorporated in 1994, and since has grown to \$3.2 billion in revenue and more than 12,000 employees worldwide.

### Deployment History:

Guidant transformed its terms of competition in the industry and enhanced its ability to serve its clients. Guidant plans to expand the Implant Registration, Inventory and Sales system to a total of 1,500 mobile users over the next two years and add up to eight more applications.



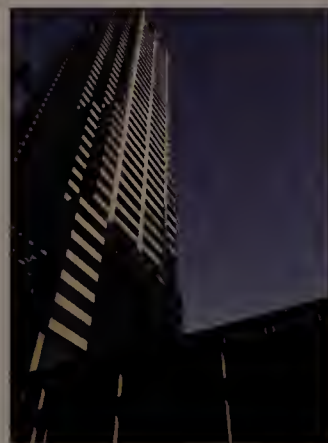
Guidant Corp. Team  
Project Champions

## Challenges

Guidant's Cardiac Rhythm Management group develops devices that correct life-threatening rapid or irregular heartbeats. Guidant has more than 1,300 representatives on site in the operating room to provide technical assistance related to the device. Guidant needed a way to enhance the ability of this team to do its job.

## Solution

Guidant's sales force automation team equipped these field representatives with laptops running a collection of the most up-to-date applications. Access to the Guidant network was through dial-up, Wi-Fi or broadband connections with dual-factor authentication. The Implant Registration, Inventory and Sales (IRIS) system was the next major tool to be added to the Guidant sales force toolbox. The file replication subsystem is the backbone of the IRIS system and other software tools in the future. IRIS distributes the data field representatives need to do their jobs efficiently and effectively, and allows headquarters to capture data about implants and sales from the field reps.



## Guidant Corp.

Guidant is a world leader in the design and development of cardiovascular medical products. Guidant's technologies help patients with heart disease return to active and productive lives. The company's headquarters are in Indianapolis, with major operations in California, Minnesota, Texas, Washington, Puerto Rico and Ireland. Guidant's products are distributed by a sales force recognized throughout the industry for its clinical expertise and customer service.



## Benefits

The new system guards against bandwidth creep and keeps the length of synchronization sessions to a minimum. It also offers a single, integrated console. This allows the IT staff to configure data-sharing logic, start and restart servers, view detailed system logs and manage the user community.

**GUIDANT**



Acknowledges implementation strategies and programs to ensure highly available information and data access. Examples of business continuance initiatives (backup plans, staging, performance testing/projections, etc.) were key considerations.



Ron Neher  
Project Champion

## Motorola Inc.

Founded in 1928, Motorola has gone on to become a worldwide force in the wireless, broadband and Internet industries. The company has become known for its software-enhanced wireless telephone and messaging; two-way radio products and systems; and networking and Internet-access products. In addition, Motorola is a recognized maker of integrated electronics systems for the automotive, industrial and portable energy markets.

### Challenges

Eighty percent of Motorola's PCs are laptops. Its PCs are connected to local-area, wide-area and enterprise networks, some with very low bandwidth. Previous backup systems that relied on human intervention were prone to error and eventual data loss. Motorola needed a PC backup-and-recovery software solution for a highly mobile and diverse computing environment.

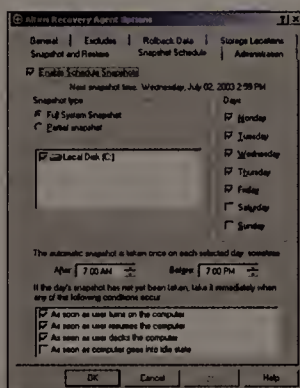
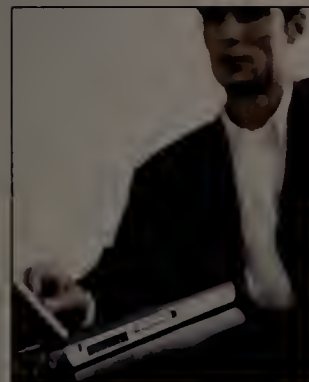
### Solution

Motorola turned to a commercially available recovery solution that was recommended by one of its employees, Ron Neher. The product allows for even the backup of live data on a regular basis without human intervention, and it only records the data that changed since the last backup, so bandwidth is never a problem. In fact, CPU utilization during a backup is as low as 10% to 20%. Employees no longer have to remember to perform backups, and they can recover any lost data with a simple right-click of their mouse.

### Benefits

During the first backup, everything on a machine's hard drive is recorded. After that initial save, only the data that has changed is compressed and sent over the network for storage. This technology is an excellent fit for remote and mobile users on bandwidth-sensitive connections.

The company has 23,550 licensed users who have an average of 1.62 GB of unique data that needs to be backed up. Motorola conducted a before-and-after assessment of its PC data restore, recovery and replacement costs and found that it saved \$6.04 million each year in labor costs. Right now, the company is in the process of expanding the program to cover all of its employees.



## Company Overview

### Motorola Inc.

1303 E. Algonquin Road  
Schaumburg, IL 60196

### URL:

www.motorola.com

### Established:

1928

### Number of Employees:

97,000

### Business Profile:

Motorola Inc. is recognized in the wireless, automotive and broadband communications industries worldwide. Sales in 2002 were \$27.3 billion. Motorola is a global corporate citizen dedicated to ethical business practices and pioneering important innovations that make things smarter and life better, honored traditions that began when the company was founded 75 years ago this year.

### Deployment History:

Implementing the recovery solution for backup and recovery of enterprise PC data has helped Motorola save \$6.04 million annually in reduced labor costs associated with PC backup and recovery.

Motorola's PC base consists of about 80% laptops. With the vulnerability of data in a highly mobile user base, an effective and efficient backup-and-recovery solution is mandatory.



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HP recommends Microsoft® Windows® XP Professional for Mobile Computing.



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# Information Security

## Company Overview

### INTEGRIS Health Inc.

3300 N.W. Expressway  
Oklahoma City, OK 73112

#### URL:

[www.integrish-health.com](http://www.integrish-health.com)

#### Established:

1983

#### Number of Employees:

7,510

#### Business Profile:

INTEGRIS Health is Oklahoma's largest not-for-profit healthcare organization, operating 12 major facilities that support over 7,510 medical and administrative staff and 450 independent physicians. Named one of the 100 "most wired" health systems for four consecutive years, INTEGRIS has a continued commitment to quality healthcare.

#### Deployment History:

With an unidentified mix of hospital- and physician-owned mobile and wireless devices, the first priority was to silently monitor 5,000 workstations to detect synchronization and create an inventory of mobile users and devices with a security management software solution. Balancing usability and security has resulted in overwhelmingly positive feedback for the security solution.



William Woloszyn  
Project Champion

## INTEGRIS Health Inc.

INTEGRIS Health is Oklahoma's largest not-for-profit healthcare provider, operating 12 major facilities with more than 7,510 medical and administrative staff and 450 independent physicians.

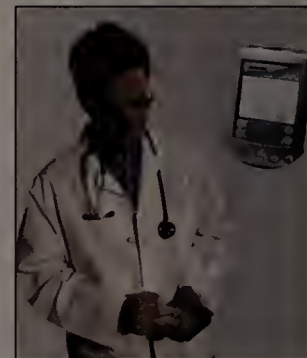
### Challenges

To provide higher quality patient care, INTEGRIS Health uses mobile and wireless technology to access patient records and lab results at the point of care. However, information resident on mobile devices is not protected by exist-

ing network security and poses new threats to the privacy of health information that is governed by Health Insurance Portability and Accountability Act (HIPAA) privacy rules. INTEGRIS Health needed a cost-effective security solution that would protect sensitive information from wrongful disclosure in the event the mobile device was misplaced or stolen.

### Solution

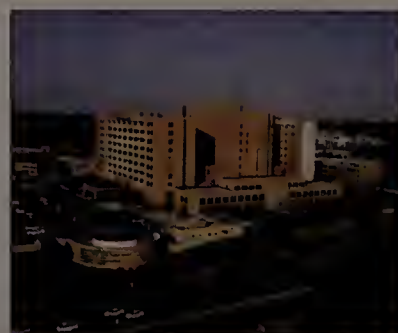
INTEGRIS Health implemented a mobile security program using a commercially available security and management software product. This enables INTEGRIS Health to control security for mobile users across diverse computing platforms. Users are authenticated with a personal identification number (PIN) or password to protect information contained on the device. This also ensures data confidentiality and controls connectivity. In addition, information on the devices is automatically deleted if they are lost or stolen. Security functions are virtually transparent to the user and enable physicians to reset their own PIN or password.



### Benefits

INTEGRIS Health can now minimize the burden of enforcing compliance to mobile and wireless security policies by centralizing policy administration and automating distribution processes. Administrators can control policy settings and device use based on existing group and user profiles. This eliminates the need to update multiple systems each time a change in employment status is made.

In addition, INTEGRIS Health now controls mobile device use and can prevent rogue devices from accessing networked resources.



INTEGRIS Health



A case study on the successful implementation of secure mobile and wireless computing/communicating and recovery from a significant network or systems disruption. Summary analysis of restart/recovery factors (backup deployment, time to restart and restore, information/data loss, etc.) was essential.



William S. Murray  
Project Champion

## Los Alamos National Laboratory

Los Alamos National Laboratory focuses on national security issues. In their effort to help the country counter nuclear proliferation — the possibility that someone may try to introduce a weapon to the U.S. and detonate it — LANL scientists have developed a hand-held nuclear isotope identifier that can not only identify the source of radiation, but also send data about it to experts who can provide further analysis.

### Challenges

Border officials currently use large portal monitors that people walk through. These machines can generally tell if there's radiation present, but not what that radiation is. In many cases, people with cancer or other problems that require the use of medical isotopes set those detectors off. A device was needed to allow officials to tell right away if the radiation was from a legitimate device or a weapon of some kind.

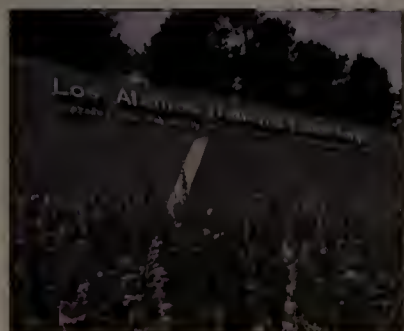
### Solution

LANL scientists developed a hand-held nuclear isotope identifier that can identify the source of radiation and send data about it to experts who can provide further analysis. The device consists of two parts. The first is based on a commercially available handheld that provides the user interface, communication device and data archiving. The second part is a radiation detector that has a microprocessor. The handheld slips into a cradle on the detector and communicates with the radiation detector's microprocessor.



### Benefits

The handheld is a lot easier to carry around in the field and is easy to use. It also allows for flexibility in the future. In addition, the handheld makes it easy to transfer data to other machines, allowing a more detailed analysis by specialists. The use of a commercially available product also ensures that the lab will not be put into the position of trying to build its own upgrades to the handheld and its interface.



## Company Overview

### Los Alamos National Laboratory

Bikini Atoll Rd., SM 30  
Los Alamos, NM 87545

#### URL:

[www.lanl.gov](http://www.lanl.gov)

#### Established:

1943

#### Number of Employees:

11,359

#### Business Profile:

Los Alamos National Laboratory is operated by the University of California for the National Nuclear Security Administration (NNSA) of the U.S. Department of Energy and works in partnership with NNSA's Sandia and Lawrence Livermore national laboratories to support NNSA in its mission.

#### Deployment History:

In 1997, Los Alamos started looking for ways to make radiation detection devices smaller and simpler to use for people with little technological experience. The events of Sept. 11, 2001, have made the need for this technology even more pressing.





# Financial Payback

## Company Overview

### Burlington Northern Santa Fe Railway Co.

2650 Lou Menk Drive, 2nd Flr.  
P.O. Box 961057  
Fort Worth, TX 76161-0057

#### URL:

[www.bnsf.com](http://www.bnsf.com)

#### Established:

1995

#### Number of Employees:

38,000

#### Business Profile:

The Burlington Northern Santa Fe Railway Co. operates one of the largest railroad networks in North America, with 33,000 route miles covering 28 states and two Canadian provinces. This network covers the western two-thirds of the U.S., stretching from major Pacific Northwest and Southern California ports to the Midwest, Southeast and Southwest, and from the Gulf of Mexico to Canada.

#### Deployment History:

Within two months of implementing its program, the BNSF realized a dramatic return on investment. The railroad determined that it reduced the usage cost per minute for wireless devices by 37% and has significantly driven down TCO.

**BNSF**



John Hicks  
Project Champion

## Burlington Northern Santa Fe Railway Co.

BNSF operates in 28 states and two Canadian provinces and moves freight over a rail network stretching 33,000 route miles, making it one of the largest railroads in North America. Wireless capabilities enable BNSF to improve service levels and generate efficiencies by keeping train crews, maintenance crews and management aware of current schedules and work plans.

### Challenges

The majority of BNSF's employees uses wireless devices as their primary link to the office or dispatch center. But as dependency on wireless grew, the company faced rising costs. BNSF needed a comprehensive solution to address its wireless management challenges without dedicating additional internal resources. Challenges included accessing wireless usage information and associated costs across carriers, identifying savings opportunities and maximizing the return on investment (ROI) of wireless.

### Solution

BNSF chose a leading mobile communications management software product to resolve the above issues and reduce wireless service costs while providing a robust solution for managers and employees to participate in managing wireless budgets. It provided BNSF with a customized, Web-based application suite and dedicated account support services to organize, analyze and optimize BNSF's wireless users, usage, devices, carriers and service costs, all within a single interface.

### Benefits

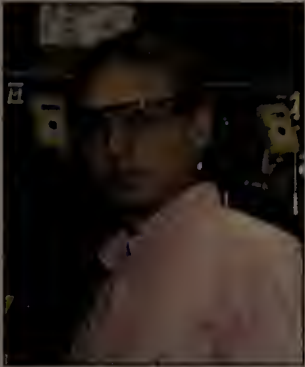
The software dramatically reduces wireless service costs via a patented process for matching employees' monthly usage to the more than 14,000 available rate plans and continually drives down the usage cost per minute.

BNSF centralized wireless accounts and costs and delegated wireless management responsibilities to cost center managers and employees. BNSF realized positive ROI in two months and attained a total reduction in usage cost per minute of 37%. These results show that BNSF is getting the most out of each wireless dollar spent and aggressively driving down the total cost of ownership.





Achievements in measurable return on investment, return on assets and return on resources through the use of a mobile and wireless system were evaluated. Total cost of ownership benefits and other accomplishments were presented.



Mark Wrubel  
Project Champion

## Ford Motor Company

Ford Motor Company, headquartered in Dearborn, MI, is the world's second largest automaker, with approximately 335,000 employees in 200 markets on six continents. Its automotive brands include Aston Martin, Ford, Jaguar, Land Rover, Lincoln, Mazda, Mercury and Volvo. Its automotive-related services include Ford Credit, Quality Care and Hertz.

### Challenges

The company's goals were to improve quality and reporting while increasing safety and cutting costs at more than 50 manufacturing plants through better tracking and delivery of parts inventory. Additionally, the entire system had to be easy to use, intuitive for assembly-line workers, and operable with wireless technology in a manufacturing environment.



### Solution

Ford jointly developed a real-time locating system with Santa Clara, Calif.-based WhereNet Corp. The WhereCall Parts Replenishment solution provides real-time material replenishment requests for material handling utilizing radio-frequency call buttons. When an operator presses a WhereCall button, the system places a request for the associated parts. This information is transferred to material-handling operators, who deliver the material. In addition to notifying internal parts suppliers, the tag transmits information to Ford's management and results in better control of the supply chain.

### Benefits

Ford has realized significant savings through lower installation costs, increased operation efficiency, lower inventory quantities and increased manufacturing flexibility. The wireless call system also costs half to three-fourths of what a similar system using wired components would cost. In addition, the system can be installed in a quarter of the time it took to install the previous systems, and line re-balancing operations can be done in much less time with virtually no additional capital expenditures for hardware and equipment.

The system ensures that materials are installed at their intended location.

Detailed data on material usage and delivery times are now available.



## Company Overview

### Ford Motor Company

One American Road  
Dearborn, MI 48126

### URL:

[www.ford.com](http://www.ford.com)

### Years in Service:

100

### Number of Employees:

335,000

### Business Profile:

Ford Motor Company is an international automaker that has multiple brands and competes for market share worldwide. The company needs to be able to manage many different parts streams to manufacturing plants worldwide while maintaining its competitive edge.

### Deployment History:

The WhereCall system is in operation at more than 50 plants in North and South America and Europe, providing real-time material replenishment requests for material handling. Plans exist for the widespread deployment of additional solutions leveraging the multiple use infrastructures at most of Ford's North American and international plants within the next several years.



# Innovation and Promise

## Company Overview

### London Ambulance Service

220 Waterloo Road  
London, England SE1 8SD

#### URL:

[www.londonambulance.nhs.uk](http://www.londonambulance.nhs.uk)

#### Established:

1965

#### Number of Employees:

3,700

#### Business Profile:

London Ambulance Service is the largest ambulance service in the world, caring for more than 1.5 million patients every year. As an integral part of the National Health Service, London Ambulance works very closely with hospitals and other healthcare professionals, as well as other emergency services.

#### Deployment History:

For London Ambulance, the decision to adopt GPRS as a solution was made at a time when GPRS was in its infancy. While a small element of risk was involved in adopting such a new technology, GPRS was identified as a better solution than other services, especially given how the various networks were expected to develop in the future.



Quentin Armitage  
Project Champion

## London Ambulance Service

London Ambulance Service is the largest ambulance service in the world, caring for more than 1.5 million patients every year.

### Challenges

Serving an area of about 620 square miles, London Ambulance handles more than 1 million calls per year through 70 stations. A solution was needed that would enable London Ambulance to simultaneously switch between multiple wireless wide-area and wireless local-area network (WWAN and WLAN) connections. Previously used

radio communications provided inefficient coverage for such an area, often slowing down critical response time.

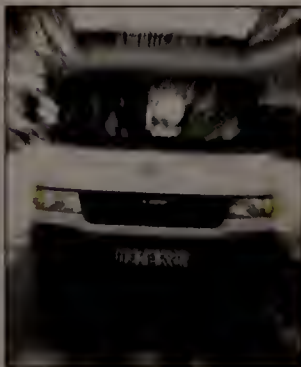
### Solution

Seamless network switching provides automatic switching between multiple WWAN and WLAN network connections. Now, when a London Ambulance vehicle leaves the 802.11b WLAN environment, its connection can switch to the general packet radio service (GPRS) and global system of mobile communication (GSM) networks as they become available, ensuring no break in communication. User-defined rules designate the order the networks should be tried until a connection is established.



### Benefits

By switching from the WWAN to the WLAN and with the capability to switch from GPRS (packet data) to GSM (circuit-switched) networks based on availability, London Ambulance is able to minimize costs while maximizing coverage. Now, in the event of an emergency, ambulances are notified by the sound of a bell in the cab while detailed instructions appear simultaneously on their in-vehicle touch screen device. Following the initial notification, vehicles receive detailed driving directions via an in-vehicle navigation unit, which is attached to the touch screen PC. Meanwhile, the control room is receiving GPS navigation data back from the vehicle every 15 seconds. A map is also displayed, which enables the crew to see where the vehicle is in relation to their destination.





Successful pioneering of leading-edge mobile and wireless technology was recognized in this category. The ability to overcome early adoption obstacles and to resolve problems (in-house or via unique vendor/integrator/other user partnerships, etc.) was assessed.



Dr. Sydney Kennedy  
Project Co-Champion

## University Health Network

University Health Network is a consortium of three hospitals — Toronto General Hospital, Toronto Western Hospital and Princess Margaret Hospital — in Toronto. UHN is among the world's leading providers of exemplary patient care and innovative research and teaching.

### Challenge

With increasing de-institutionalization of mentally ill patients, a cost-efficient way to treat those patients at the point of care (at levels consistent with those achieved in institutional settings) was required. In order to do this, psychiatrists, residents, clinicians and administrative staff need to be able to securely access, in real time, patient records, including such information as demographics, emergency visits, diagnoses, current medications, allergies, housing situation and clinical notes.

### Solution

The first thing that had to happen was the digitization of all documents related to targeted patients. In addition, the establishment of a centralized administration management console that can overview and control operations was required.

The next phase, which began recently, was the integration of the back-end systems from the various institutions in the hospital's network. The technology is being facilitated with a transcoding technology that allows the program to take any business system and have it deployed with a single application programming interface onto any mobile and hardware platform intelligently and seamlessly.

### Benefits

The labor force can be kept at static levels while increasing the quality and quantity of care delivered by removing the high cost of paper handling. Patient record management is labor-intensive, requiring field care workers to print data from various healthcare systems so that information will be available to them in the field. Healthcare professionals themselves can create a personalized, single view of a patient record that will improve collaboration.



Dr. Patricia Cavanagh  
Project Co-Champion

## Company Overview

### University Health Network

250 College Street  
Toronto, Ontario M5T 1R8  
Canada

### URL:

[www.uhn.ca/uhn](http://www.uhn.ca/uhn)

### Established:

1999

### Number of Employees:

11,000

### Business Profile:

University Health Network is made up of Toronto General Hospital, Toronto Western Hospital and Princess Margaret Hospital. Each hospital retains its identity and name within the network. Primary funding for University Health Network comes from the Ontario Ministry of Health. With an operating budget of over \$850 million, the University Health Network is one of Canada's largest teaching hospitals.

### Deployment History:

The first phase of this project (the digitization of all the documents and the establishment of a centralized administration management console that will be able to overview and control operations) is complete. The second phase, which will be integration with the back-end systems from the various institutions, is under way.



University Health Network



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with their budget program," says Davis. "The system automatically dispatches the request to the appropriate IT person via e-mail, and the loan officer receives an e-mail acknowledging the work and status."

There's an automatic workflow trail created to keep both the user and IT managers aware of the problem. As a result, everyone knows who is working on what, how many projects each staffer is handling and the general capacity of the help desk operation. More than 75% of the requests for help (there are more than 600 a month) now come via e-mail rather than phone.

The flexibility of help desk software is an asset to be exploited. The credit union's IT team of 22 uses HelpStar to help allocate resources and improve department-to-department communications.

Rethink what your help desk software can do, and you just might polish IT's positive profile. And that's far from boring. **42055**

MICHAEL  
GARTENBERG

## Security Woes Aren't Unique To Microsoft

**O**VER THE PAST few months, a number of publicized security issues have highlighted the fragility of today's systems and our dependence on them.

There has also been a lot of finger-pointing at Microsoft, and many are questioning whether the company can ever resolve the security problems that seem to plague many of its products.

First, it's important to understand that security concerns aren't new. From the earliest mainframes, there have been security updates from manufacturers. Most users just never knew about them or weren't affected by them. In today's mobile, interconnected world, everyone is affected by security problems and, therefore, security flaws make news.

Sure, Microsoft's security snafus are easy targets for critics, but the truth is that the company is doing a good job shouldering responsibility for issues related to its software. It's time for IT departments and end users to begin to shoulder some of the responsibility.

We need to stop acting like small-town folks who leave their doors unlocked at night and start acting like urban denizens who wisely lock, bolt and chain their portals.

I'm not Steve Ballmer, but if I were, I might have handled the Windows security problems differently. While I would acknowledge that Microsoft needs to continually improve its security, I would have also added that it's going to take more than the efforts of Microsoft if security issues are going to be resolved. I would say, "IT managers need to take accountability for their systems, software vendors must be responsible for the correct installation and maintenance of their programs, and consumers must secure the digital technology in their households. That's the price of the advantages provided by a digital lifestyle."



MICHAEL GARTENBERG is research director for the Client Access and Technologies group at Jupiter Research in New York. Contact him at [michael.gartenberg@mindspring.com](mailto:michael.gartenberg@mindspring.com).

I'd also add, "If you think the answer to your problem is Linux, the CERT Coordination Center has released data showing that 16 of the 29 security advisories it released last year involved Linux or open-source products."

Although Microsoft releases regular information on security issues and has a good track record of releasing patches to known problems, a lot of IT departments simply ignore them. In many cases, IT runs en-

vironments so diverse that it simply doesn't know which machines are running which operating system. Such ignorance borders on incompetence and must come to an end, because it costs everyone time and money when insecure systems pass along viruses and worms to the rest of us.

Finally, we need to address the fundamental nature of what these security

attacks are all about. As long as the media keeps portraying the computer criminal as the noble and romantic hacker, I fear that more of this behavior will occur. In the wake of the recent attacks on the nation's computer infrastructure, it's time we started calling the people who perpetrate these senseless and malicious actions just what they are: criminals and terrorists. Anyone who launched similar attacks on any other part of society's infrastructure would have been hunted down and prosecuted to the fullest extent of the law.

But barring the capture of all computer crackers, it's up to users to know what systems they have running and how well they are protected. It's not Microsoft's fault if we're ignorant of what's inside our own domains.

**42067**

### WANT OUR OPINION?

More columnists and links to archives of previous columns are on our Web site: [www.computerworld.com/columns](http://www.computerworld.com/columns)

## READERS' LETTERS

### Controversial Study Stirs Security Debate

**A**NY CIO worth his weight should address the issue of multiple operating systems ["Anti-Microsoft Security Report Mired in Politics," QuickLink 41691]. You don't have to run several different operating systems, but as part of disaster planning, you should have a minimum of one operating system that has already been tested and approved for applications in all areas of your business.

I would by no means run more than one desktop operating system in my company, but I have three Linux distributions ready to go in case of a major Microsoft meltdown due to a virus or security breach.

**Jason D. Blevins**

MIS director, Manchester Tool and Die Inc. and BKB Manufacturing Inc., North Manchester, Ind., [jablevins@manchestertoolanddie.com](mailto:jablevins@manchestertoolanddie.com)

**T**HE CRIMINALS who are devising and deploying the attacks on our IT infrastructure will do so regardless of the hardware, operating systems and applications that are being used.

The IT community needs to band together to fight them instead of fighting one another. Perhaps if we

concentrate our efforts on identifying these terrorists and insisting that they be prosecuted to the fullest extent of the law, then their ranks will dwindle.

**Bob Albert**

Director, systems development, Claritas Inc., Ithaca, N.Y.

**P**LENTY OF COMPANIES have maintained versions of their software for multiple operating systems for years. Having done it myself, I can assure you that it improves the quality of the code. Furthermore, there are companies that

market write once, run anywhere systems from Java and Smalltalk vendors that make it easier.

**Thomas Gagne**  
Ferndale, Mich.

**D**ID THE STUDY'S AUTHORS consider that companies that deploy multiple operating systems to avoid a single target platform most likely would cause an even greater security risk due to inexperience in configuring multiple operating systems?

**Jay D. Shelton**

Software development manager, Franciscan University of Steubenville, Ohio

### Questioning the Ethics of Research Firms

**I**AM ENTHUSIASTIC about Computerworld's promise to provide more background so readers can judge the veracity of the claims made in analyst reports or surveys ["A Question of Credibility," QuickLink 41489].

I wasn't aware that research companies didn't disclose whether a study was funded by a vendor that was the subject of the research. I find this practice completely unethical. If a research company is marketing itself as an independent and objective source of information, it

violates that claim when it publishes research funded by the subject. Most companies don't have the budget to conduct exhaustive research themselves. That's why we share the cost and pay research companies to do it on our behalf.

I am glad that you raised our awareness of this problem so that we can challenge our research vendors. I look forward to reading your magazine and being able to make more informed decisions.

**Mike Dunn**  
Cleveland

### Spam-iquette

**V**INCE TUESDAY still doesn't get it. In the "Spam Redux" section of his Sept. 29 article [QuickLink 41210], he explained that his company sends only one spam warning letter per return address. But when you send even one message to the wrong address, you unduly pull the recipient into a spam issue that isn't theirs. Either apply resources to track down the source and report it to their host, or do nothing. But don't be part of the problem by asking innocent victims to investigate and resolve your spam issue.

**Larry Williams**

Information security administrator, Portland, Ore.

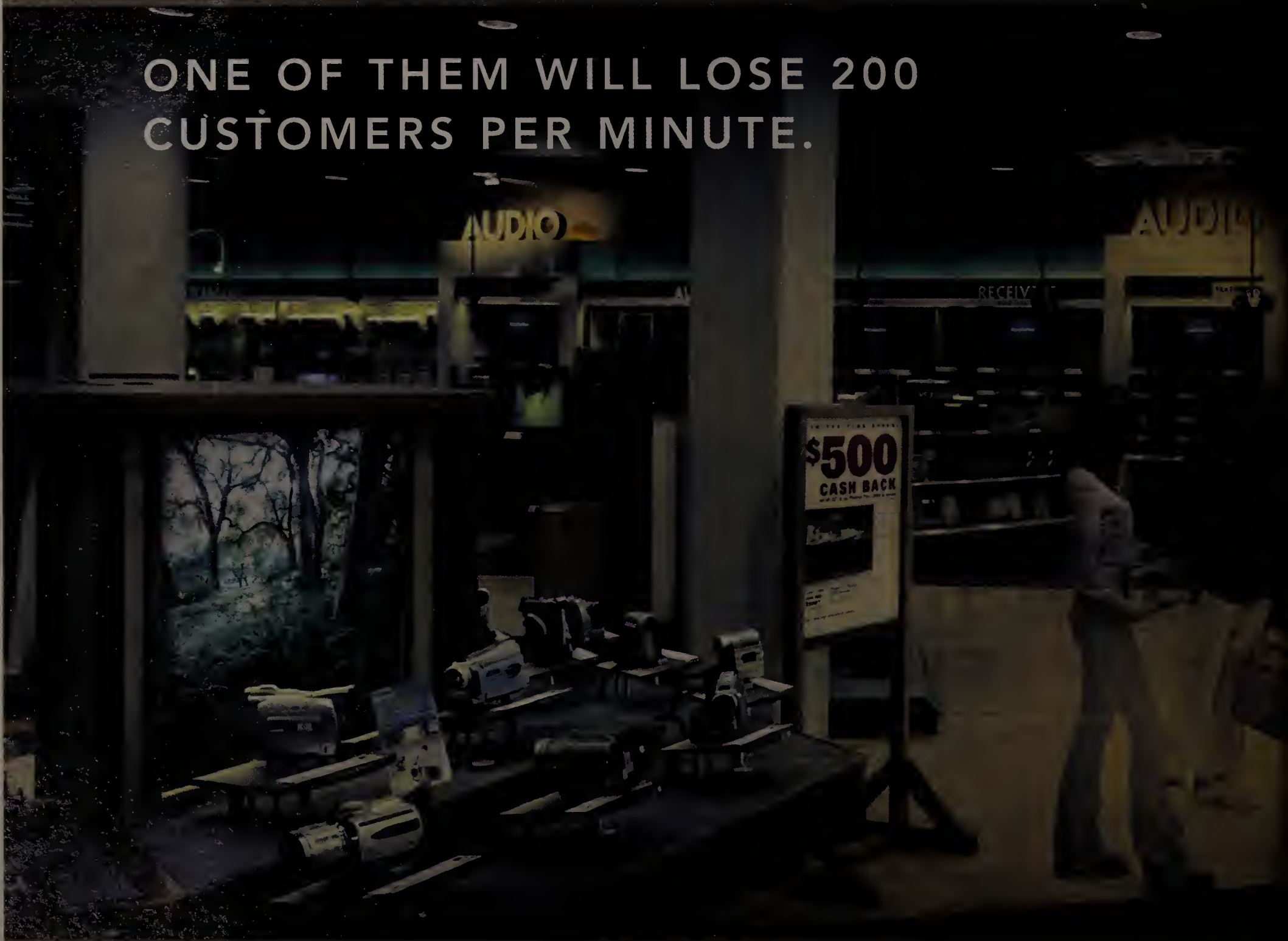
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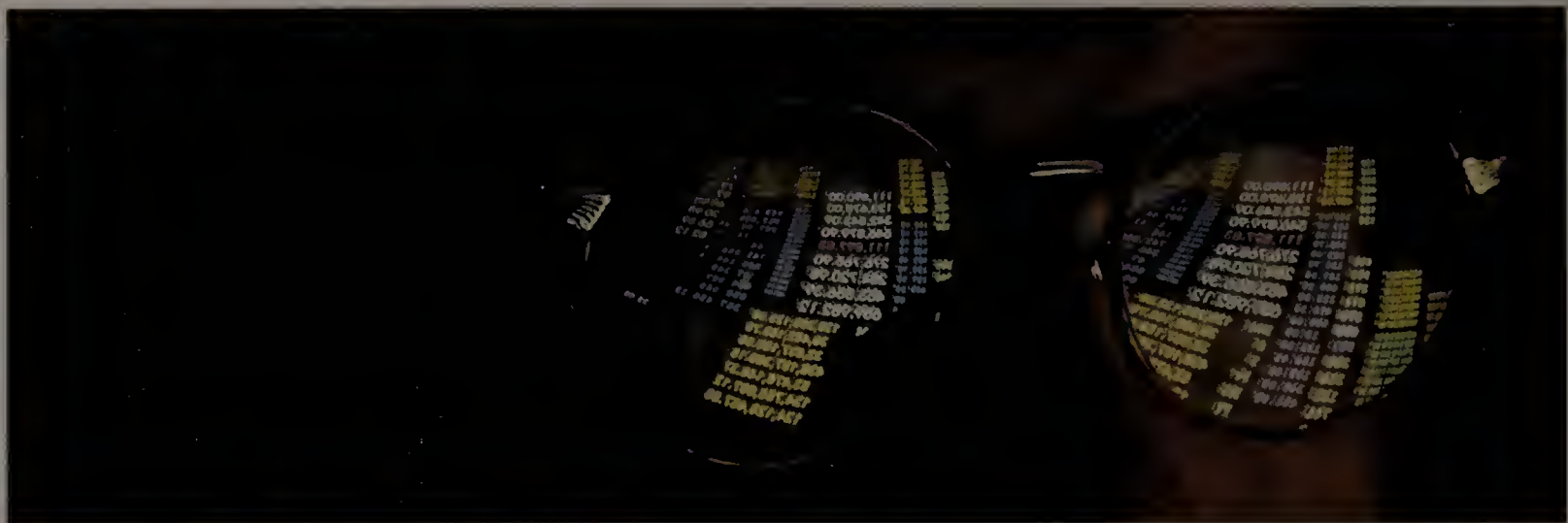
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## QUICKSTUDY SPML

Services Provisioning Markup Language is an XML-based framework for exchanging user, resource and service provisioning information between applications and organizations. **Page 40**

## SECURITY MANAGER'S JOURNAL

### Child Porn Gets by Filters; Feds Follow

After investigators discover that an employee at Mathias Thurman's company has been sharing child pornography online, the security manager must provide data to law enforcement officials. **Page 42**



## OPINION

### Six Things I Hate About IT

Robert L. Mitchell gets a few things off his chest, such as his feelings about "solutions," irresponsible vendors and canned analyst quotes. **Page 44**



## SUBMERGING TECHNOLOGIES:

# FIVE THAT ARE SINKING FAST

These technologies are rapidly taking on water. Is it time to jump ship?

BY GARY H. ANTHERS  
AND ROBERT L. MITCHELL

**M**OST CORPORATE IT organizations have steering committees to craft strategies for new technologies, chief technology officers to assess new products, and IT policies and procedures for developing and buying new hardware and software.

But where are the review committees for obsolete technologies? Who's looking at what's in the data center, on desktops and in briefcases to see if they still make sense? Who's checking to see if spare parts, vendor support and employees with the right skills will be available next month — or next year?

In most companies, no one is doing those things in any rigorous way, says John Parkinson, chief technologist for the Americas region at Cap Gemini Ernst & Young in Chicago. "I know of very few companies that actively manage sunseting their IT," he says. "They think it will last forever."

It doesn't, of course. But in most cases, there's no need to rush: "No tool is really outdated if it serves the needs of end users," says Eric Goldfarb, CIO at PRG-Schultz International Inc. in Atlanta. However, IT managers who wait too long may risk being forced into expensive last-minute changes to accommodate new technology initiatives as business needs change. That IP telephony call center application won't fly if you have to replace not only the private branch exchange but also update network cabling and those nonswitched, shared-media Ethernet hubs.

Parkinson says that for each type of software and hardware installed, companies should have an estimated cost and date to replace it and an estimated cost to retain it. "You really should have this in the plan when you [buy], otherwise you won't know what ROI to expect," he says.

Of course, some technologies need closer scrutiny than others. So *Computerworld* asked corporate IT managers and analysts what items they would put at the top of their lists. Some of them may justify an immediate rip-and-replace strategy; others should be put on your "endangered" list. Here are five submerging technologies to watch in 2004:

## 1 WINDOWS 9x

**WHY IT'S SINKING:** Can 92 million users be wrong? Yes. Declining support, reliability problems, security issues and incompatibility with new applications should drive the remaining installed base to Windows 2000 or XP.

No obsolete technology is in wider use than the 9x versions of Microsoft Corp.'s operating system.

*Continued on page 32*



pilot

navigator



IBM recommends Microsoft® Windows® XP Professional for Business.

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Continued from page 29

"Windows 9x is getting to be pretty much unsustainable," says Tony Iams, an analyst at D.H. Brown Associates Inc. in Port Chester, N.Y. Indeed, many companies have already migrated to Windows 2000 Professional to gain the reliability of an operating system built on the more stable NT kernel.

But eradicating Windows 9x won't come easy: IDC in Framingham, Mass., estimates that by year's end, there will still be 17 million Windows 95 installations, 48 million Windows 98 users and 27 million machines still running Windows Me. And the majority of those are business PCs, claims IDC analyst Dan Kuznetsky. "In the long term, it will probably be less costly to upgrade [to Windows XP], just because the NT kernel is much more reliable," he says.

But what if your organization has waited? Should you go directly to XP, wait for the next generation (code-named Longhorn) or choose something else?

Don't hold your breath for Longhorn: It isn't due to arrive until 2005 at the earliest. Linux is a widely touted option, but for many the idea of replacing thousands of Windows installations, training users on a new operating system and getting it to work with existing Windows applications is a nonstarter.

Tom Pratt, information systems manager at Coastal Transportation Inc. in Seattle, says he has no plans to abandon Windows 98. The applications running on

his boats won't run on anything else, and it's perfectly satisfactory for his office applications as well, he says. Can Pratt stay on Windows 98 forever? "Forever is a funny term," he says. "Let's just say 'indefinitely.'"

But John Montgomery, chief technology officer at Marine Terminals Corp. in Oakland, Calif., is making the move to Windows 2000. "Our newer applications are not going to run on [Windows 9x]," he says. "The main reason why Windows 9x is still out there is for legacy applications that it took us quite a while to get rid of."

## 2 CLIENT/SERVER COMPUTING

**WHY IT'S SINKING:** Two-tier computing with fat clients had its day, but there are now better ways to distribute data and computing power for flexibility, ease of maintenance and business continuity.

The original client/server scheme — where the application's visual presentation and business logic reside on the desktop, and data resides on a server — is an idea whose time has passed. It's being replaced by Web browser clients, n-tier systems and Web services.

Why should users replace their two-tier systems? "Flexibility would be the big reason, and some issues around business continuity and disaster recovery," Parkinson says. "Also, a lot of that software was built with second-generation client/server tools, like [Sybase's] PowerBuilder and SQL Windows, and things

have moved on a lot since those days." It's becoming harder to find people with those skills and to get the object code to run well on newer technology, he adds.

Randy Heffner, an analyst at Forrester Research Inc. in Cambridge, Mass., makes a distinction between mission-critical enterprise systems and "low-affordability," or departmental, applications. "Strategic applications should never be developed in the traditional fat-client, two-tier client/server model," he says. "The business logic becomes inaccessible and hard to maintain. Instead, the right approach is a service-based design — that is, to build a business services layer in the application that can be exposed via Web services or any other mechanism."

But two-tier computing with fat clients is still the best approach for companies such as PRG-Schultz, a \$500 million "recovery audit" company that analyzes clients' accounts payable records to see whether they've overpaid. "Because of the creative work our auditors do on their desktops — data mining, analysis — we keep a lot of computation there," Goldfarb says. Response time is enhanced by keeping the power local rather than relying on a network, he says.

Jim Honerkamp, CIO at Clopay Corp. in Mason, Ohio, has found a way to extend the lives of his two-tier, fat-client applications. He replaced desktop PCs with Windows thin-client terminals from Wyse Technology Inc. and moved the client code to a MetaFrame server from Citrix Systems Inc. "This allows you to put a very thin client on the desktop, and it greatly simplifies support on the desktop," he says. "The application thinks it's still running in a client/server environment."

## SINKERS AND SWIMMERS

OUT	IN	WHY
900-MHz wireless LANs	802.11 WLANs	Early WLANs installed in warehouses and manufacturing floors won't work with 802.11b. Integration requires an upgrade.
1U (1.75-in. high) servers	Blade servers	They save space, eliminate cables and lower costs by sharing power supplies and connectivity.
Color ink-jet printers	Color laser printers	Color laser printers used to cost thousands; now they're well under \$1,000. And color laser cartridge changes are less frequent — and less messy.
CRT monitors	LCD monitors	Flicker-free LCDs reduce eyestrain; the tubeless design saves on desk space, and the LCDs are less environmentally hazardous at disposal time than CRTs.
Dot-matrix printers	Ink-jet/laser printers	Dot-matrix printers are still good for multipart forms, but as volumes have fallen, prices have jumped above those of both ink-jet and low-end laser printers.
Ethernet hubs	Intelligent switches	Newer switches are inexpensive, a prerequisite for IP telephony, and typically support Simple Network Management Protocol for remote manageability.
File servers	Network-attached storage appliances	Why maintain file servers for shared storage when you can plug in a simple appliance?
Floppy disks	Flash disks, writable CDs, DVDs	What fits on 1.44MB of disk space anymore?
Mac OS 9	Mac OS X	Increased stability makes this upgrade a no-brainer.
Modems	Wireless LANs	With WLANs expanding across offices, public spaces and hotels, the modem, with its 56Kbit/sec. speed limit, is fast becoming the computing equivalent of an automobile's limited-service spare tire — used only in emergencies, at low speeds.
PBXs	IP telephony/call manager servers	With applications that require an integrated voice/data network already emerging, another long-term investment in a digital PBX at this point probably doesn't make sense.
PDAs	Cell phone/PDA hybrids	Free up your pockets! New hybrid models are finally reaching a size and price where a single, integrated device makes sense.
Serial/parallel ports	USB 2.0 ports	The ports won't go away on PCs anytime soon, but for new hardware, Universal Serial Bus peripherals are faster and often easier to set up.
Token Ring	Ethernet	Ethernet: Cheap and ubiquitous. Token Ring: Expensive, with limited vendor sources. Any questions?
Windows NT servers	Windows 2000, Server 2003	Support will disappear soon — as will all those security patches and updates.
Zip drives	Rewritable CD/DVD drives	CD-ROM drives are inexpensive and ubiquitous, and the media are cheaper.

## 3 IBM SNA/PROPRIETARY NETWORKS

**WHY IT'S SINKING:** Proprietary network protocols are so 20th century, getting shoved aside by the power and ubiquity of TCP/IP. Migration will ease support and interoperability concerns.

"All proprietary protocol stacks — such as SNA, DECnet, AppleTalk, Novell IPX/SPX — are in great decline," says Jonathan Eunice, an analyst at Illuminata Inc. "Over time, TCP/IP has taken on their jobs — a process that continues as TCP/IP products continue to improve with multigigabit switches, quality-of-service techniques and so on."

You don't have to scrap those old IBM mainframe/SNA/3270 applications right away. You can run Data Link Switching over an IP network, which encapsulates SNA traffic in an IP wrapper, and leave the application and the SNA hardware unchanged. But you'll pay a performance penalty to do that.

"There are a lot of Band-Aid solutions, but ultimately the idea is to move the application to Unix or something and make it IP native," says David Passmore, an analyst at Burton Group in Sterling, Va. "If you can't rewrite or replace the application, consider software that maps old IBM 3270 terminal to Java-based browser interface."

David Pensak, senior research fellow in advanced computation at Du Pont Co. in Wilmington, Del., says he still has printers on an AppleTalk network. "Why get rid of it? The printers are fully depreciated," he says. Pensak says he also has an AppleTalk network at home, adding, "I won't replace it until I get a new computer, and maybe not then." But he says he has

Continued on page 34



# Machines You Can Write Off. People You Can't.



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Continued from page 32

dumped his old DECnet applications. "TCP/IP is so much better; it does so much more," Pensak says.

## 4 TAPE BACKUP

**WHY IT'S SINKING:** Tape is cheap, but disk technology is closing the cost gap. For day-to-day backups, disk-to-disk systems that use inexpensive ATA technology make sense.

Although magnetic tape's cost per megabyte will give it a role in keeping archival records for years to come, better technologies and techniques are eroding tape's dominance for day-to-day backup and recovery tasks. "It will be replaced by other kinds of protection, like journaling and/or replication, snapshots or point-in-time copies," says Dave Freund, an analyst at Illuminata in Nashua, N.H.

Several technologies are changing the basic approach to data backup. Disk-to-disk backup systems based on relatively inexpensive ATA storage can rapidly back up and restore entire networks. Snapshot features such as Network Appliance Inc.'s SnapMirror allow rapid imaging of a system. One indication that such software tools are becoming mainstream is Microsoft's inclusion of its Shadow Copy snapshot feature in Windows 2003 Server.

The more sophisticated tools can also briefly "quiesce," or pause, applications such as databases and flush the caches for copying without bringing the system down. "We believe that five years from now, most medium- and large-sized customers will be using snapshots on disk as the primary recovery media," says Bob Passmore, an analyst at Gartner Inc. "But that doesn't mean tape is going away in the next 12 months." Alternatives just aren't well known yet, he says.

"I wouldn't consider tape old technology," says PRG-Schultz's Goldfarb, whose company backs up 165TB of data onto a gigantic IBM 3590 tape system. He says tape will be his medium of choice for three to five more years. But Goldfarb says it will eventually be replaced with disk-to-disk or Flash Erasable Programmable read-only memory backup systems.

## 5 VISUAL BASIC 6

**WHY IT'S SINKING:** As Microsoft gradually withdraws support from Visual Basic 6 and programmers abandon it for Visual Basic .Net, those old VB 6 applications will get harder and harder to maintain.

Visual Basic 6 may be the most popular programming language, but its days are numbered. "VB 6 is the dinosaur of old. There's tons of legacy code out there, but no self-respecting developer wants to go there anymore," says Dan Mezick, president of New Technology Solutions Inc., an IT training firm in North Haven, Conn. As a result, the talent pool for maintaining VB 6 code is already shrinking. And Microsoft will phase out support for VB 6 in favor of Visual Basic .Net in the next two to four years, says Mezick.

PRG-Schultz has a number of VB 6 applications but is writing all new ones in VB .Net. Goldfarb says that in 12 months, he'll have more VB .Net applications than VB 6 applications. "Right now," he says, "I'm straddling both sides of the stream." **41762**



**“Why get rid of Windows 98 or Visual Basic 6 applications just because they're old hat?”**

FRANK HAYES



**“It's time to start planning to dump them before they dump on you.”**

MARK HALL

## FACE-OFF

# STAY THE COURSE

**HOLD ON** – why *exactly* are we dumping these “submerging” technologies? Because they're not hot? Because they're not sexy? Because all they do is work?

The word to describe them isn't *submerging*. The right word is *mature*. Or *stable*. Or *effective*.

Why get rid of Windows 98 or Visual Basic 6 applications just because they're old hat? If you want users to have the hottest, flashiest software available, buy every employee a PlayStation 2 or an Xbox. Now *that's* cost-effective flashiness. But flashiness doesn't make the business run.

Sure, tape backup and two-tier client/server and SNA networks are grandpa's IT. And if they no longer do the job, and there's a cost-effective replacement that meets your company's needs, you should retire them. If they're actually standing in the way of business goals, boot 'em out fast.

But if a system still does the job, and you're just trying to keep up with industry fads, keep

in mind what you lose when you throw away mature technology. You lose stability. And the confidence of having technology that works. And the expertise that both IT staffers and users have developed.

And what do you gain by swapping it out for the latest and greatest? You gain bugs. And a big bill for training. And a giant bull's-eye pasted on your organization's back, since crackers and worm designers and script kiddies put their efforts into breaking the most current operating systems, not dusty old stuff from five years ago.

Technology is complicated enough when IT departments stay focused on what the business really needs. There are plenty of places in every IT shop that truly need the upgrades and deserve the dollars they'll cost.

But if you're merely mortified because some piece of technology happens to come from a previous millennium, forget your embarrassment and invest in a bumper sticker: "Don't laugh – it's paid for."

# LET 'EM SINK

**VISIT THIS WEB SITE** to see the successful use of an old technology that's still chugging away: <http://aurejac.dyndns.org>. It uses a 1986 Mac Plus with an 800KB floppy disk as a Web server. So the site's author proves his point: Old technology can still function.

But doing what? Nothing but proving a silly point.

Technologies, like people, get old, slow and cranky. But unlike us, they don't have to die. They often continue to function long after they should have been dead and buried. That's the case with the technologies cited in this story. It's time to start planning to dump them before they dump on you.

Sure, your motto may be, "if ain't broken, don't fix it," let alone replace it. But don't wait too long, or you'll wake up one day with a technology that has zero vendor support, no spare parts or security patches, and only a few crotchety IT pros playing bingo in Florida who know how to make it work.

In contrast, by keeping your IT systems rel-

atively current, you can assure your users that they're getting top-level performance with the fewest possible hiccups, advanced features to improve productivity and the best security available.

Of course, the hard reality of tight budgets can dictate how often you can refresh your systems. But don't let money woes be your excuse for holding on to technologies that simply have outlived their usefulness.

By "usefulness," I don't mean that they can still do what they once did. Or even, as that Mac Plus site has proved, that they can do something different. I mean, are they doing work that adds value to the company? Are they springboards to new business opportunities? If they're not, those technologies are mere relics.

So put together a plan of action to identify and remove those aging products from your operations. If you don't, they may become the reason you get removed.



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As wireless LANs grow, companies are seeking ways to monitor and manage traffic and devices. The challenge is picking the right software for the job.  
By Drew Robb

**S**ETTING UP A WIRELESS LAN opens up a whole new set of network management challenges: balancing traffic loads, running reports, handling remote firmware upgrades, resolving channel conflicts, architecting for maximum

throughput, supporting products from multiple vendors, integrating existing management software with the new system, and supporting a variety of devices.

When ABC Fine Wines & Spirits in Orlando rolled out an 802.11b network to 152 stores this spring, remote software deployment was the key. "Initially, the problem was getting the applications down to the devices in the stores," says help desk manager Guy Ledbetter. "Then we have to manage the software and firmware that is on those devices, as well as the network connectivity."

Fortunately, as the popularity of such networks has grown, so have the options available to monitor and manage them. The trick is finding the right tool out of the dozens on the market. In ABC's case, it was Kirkland, Wash.-based Wavelink Corp.'s Avalanche product, which let ABC download the software to several hundred wireless devices in its stores and perform upgrades later.

"WLAN management is one of the hottest areas of technology right now because these networks are reaching the size, scope and complexity where their management limitations become very evident," says Warren Wilson, an analyst at Summit Strategies Inc. in Boston. "This puts a premium on simplifying de-

ployment and operations and providing greater visibility into the network."

The WLAN management market can be broken into two major segments. Some tools come from the hardware vendors themselves. For example, management functions are built into the switches from Airespace Inc. and Aruba Wireless Networks Inc., both in San Jose, and Trapeze Networks Inc. in Pleasanton, Calif. And Cisco Systems Inc. just announced its Structure Wireless-Aware Network, a mix of hardware and software that will be available later this quarter that's designed as a complete package for deploying enterprise-class WLANs.

But other products address specific areas of management pain, particularly those related to encryption, authentication, signal strength and traffic management. The key is to match the capabilities of the software to the challenges you are trying to deal with.

For DiamondCluster International Inc. in Chicago, the problem was finding a single way to implement security on all its WLANs. The company arose out of the merger of North American management consulting firm Diamond Technology Partners with Cluster Consulting, which had offices in Europe and Latin America. Each of DiamondCluster's nine offices has its own 802.11b WLAN, with one to eight access points at each location. But these WLANs grew up

*Continued on page 38*

## KNOWLEDGE CENTER

BELLE MELLOR

# Managing OVER THE Airwaves



CONTACT REBECCA ON 04591 892 713



# Managing OVER THE Airwaves

Continued from page 36

independently, with different authentication methods, depending on the hardware each location used. This significantly limited their usefulness.

"We were looking for a standardized way to secure the wireless network," says Drew Jemilo, IT director of Internet technologies at DiamondCluster. "We needed to make it so that users could go to any network around the globe, turn on their laptops and connect."

Jemilo wanted to do this without replacing hardware. So he looked for a software-only system that could run on existing file and print servers at smaller offices while scaling up to the needs of larger ones.

DiamondCluster piloted Seattle-based NetMotion Wireless Inc.'s Mobility WLAN security and management product. The client software checks for the best available connection, whether wired or wireless, and initiates the connection with the Mobility server, which handles authentication and encryption.

After finalizing the architecture and configuration options, DiamondCluster rolled Mobility out to all of its offices, a process that took about six to eight hours per location.

"There is a lot of flexibility to using a tool that is platform-independent," says Jemilo. "It worked with all the wireless cards and all the access points we already had in place."

## Who Needs Them?

Administrators have dozens of WLAN tools to choose from. But which do they really need?

"The ability to detect rogue access points is essential," says Ken Dulaney, an analyst at Gartner Inc. in Stamford, Conn. "Everything else is 'nice to have.'"

Wilson agrees that companies with installations under a certain size can still manage their networks manually. But he says even small WLANs may need additional tools in the following three cases:

**1. Dense usage areas:** If you have WLAN access in a conference room and 20 people are trying to download a speaker's PowerPoint presentation, that poses a different set of management challenges than an area with more distributed access.

**2. Radio frequency interference:** Certain areas have unusually high RF interference, particularly in a manufacturing or health care environment. "Factory machines can emit constant or bursts of RF energy that can disrupt WLAN traffic and even be so strong as to knock out the settings on an access point," says Wilson.

**3. Poor quality of service:** If you're just sending e-mail or application data, quality of service isn't a major concern. But other types of WLAN traffic, including video and voice traffic, require better service.

Of course, when you get down into the specifics of one particular network, the broad rules don't necessarily apply. Situations when site-survey tools are used are one such example.

"The site-survey tools are typically only used in

## 802.11k - Management Standard Ahead

Part of the problem with managing wireless LANs is the lack of standards in this area. To address this shortfall, the Institute of Electrical and Electronic Engineers Inc. in New York established a committee to develop a new standard, 802.11k - Radio Resource Management. The standard focuses on the two key WLAN elements: access points (AP) and PC Cards.

According to a committee paper laying out the vision and the architecture, the goal of 802.11k is to make measurements from Layers 1 and 2 of the OSI protocol stack - the physical and data link layers - available to the upper layers.

"This means that it is expected that the upper layers can and will make decisions about the radio environment and what can be accomplished in that environment," the paper states.

One feature 802.11k will enable is better traffic distribu-

tion. Normally, a wireless device will connect to whatever AP gives it the strongest signal. This can lead to overload on some APs and underload on others, resulting in lowered overall service levels.

The 802.11k standard will allow network management software to detect this situation and redirect some of the users to underutilized APs. Although those APs have weaker signals, they are able to provide greater throughput. This will produce higher speeds for both those on the original AP and the redirected users.

But don't hold your breath waiting for it. According to Gartner analyst Ken Dulaney, the standard won't be finalized for several years.

"They are trying to standardize measurement so we can have more third-party products measure more access points," he says, "but everything is proprietary currently."

- Drew Robb

the initial deployment stage," says Aaron Vance, an analyst at Synergy Research Group Inc. in Phoenix. "They get the ball rolling but are only used once."

But for the Cherokee Nation, site surveys are an ongoing process. The tribe has a 1.5Mbit/sec. frame-relay WAN connecting offices and medical facilities spread throughout 10,000 square miles in northeastern Oklahoma, as well as Gigabit Ethernet backbones in most of its buildings. But a dozen locations use Wi-Fi. "Some of the remote nodes don't have enough users to pull fiber to the buildings," says IT manager Jon James. "Also, some are in rented facilities, so we can't put wires in the walls."

James needed an easy way to conduct wireless surveys at those remote sites. Although he can put the Cisco access points he uses into survey mode, he says that doing so would still require the technicians to haul too much equipment around with them. Instead, he bought Sunnyvale, Calif.-based AirMagnet Inc.'s AirMagnet Combo, a wireless analysis tool that works on either a laptop or a Pocket PC device.

"It is a lot easier to carry around the PDA than to lug around a laptop and all its accessories," says James.

DiamondCluster's Jemilo finds a survey tool indispensable, since his company rents office space and its operations frequently move to new locations. Even shifting furniture within an office can cause problems, he says. For example, a new file cabinet could block the signal to a desktop that formerly had adequate reception.

For Stanford Law School in Palo Alto, Calif., the problem wasn't conducting security or site surveys, but determining an easy way to manage what it had in place.

"I was getting no metrics, no reporting, and had no way of managing wireless nodes," says Mike Noe, describing the scene when he started as director of IT last year. "When a professor requested that an access point be turned off during an exam, one of my guys had to climb up on a stepladder and unplug it."

Earlier this year, Noe loaded the AirWave Management Platform from AirWave Wireless Inc. in San

Mateo, Calif., on a small dedicated server, and the software automatically detected all access points. The entire setup process took a couple of hours.

After installing and configuring the software, Noe could use its reporting features to locate peak usage periods and network choke points. While these monitoring functions are useful, Noe's favorite feature is the ability to remotely manage the access points.

"Some of the instructors want wireless in their classrooms, and some don't," he says. "Now we can turn the access points on or off in a few seconds."

## Fixing Deficiencies

As these cases show, no single type of tool will meet the needs of all administrators. Each user faced a unique set of issues, and a piece of software existed to address those issues. Those tools aren't interchangeable. They each bridge different gaps left by the hardware manufacturers and other WLAN management tools and systems.

"Much of the market for wireless management tools has been built on the deficiencies of the WLAN manufacturers' offerings," says Christopher Noble, a London-based network and infrastructure analyst at The451. "Until recently, with the advent of larger corporate deployments, the main manufacturers have been lacking in their ability to monitor and manage the RF portion of wireless LANs."

But as the market matures, Noble and other observers expect to see more of these features built into the access points and switches. **41911**

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## ANSWERS AND OPTIONS

For a list of WLAN vendors and products, visit our Web site:

**QuickLink 42090**

How do you avoid interference? Is your wireless LAN really secure?

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**QuickLink 37764**  
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TEN



TIMES

# Office manager escapes clutches of desk



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BY TOMMY PETERSON

**A**S ANY general knows, an effective system for distributing and managing appropriate provisions for the troops is essential to success on the battlefield. The same is true of companies trying to win wars in the marketplace. But instead of bombs, bullets and MRE rations, a corporation must provision access to items like cell phones and credit cards and, perhaps more important, to digital assets, such as networks and applications.

The provisioning process has always been a security and administrative nightmare for IT and human resources departments. In the past, it generated tons of paper, ate up administrators' time and caused plenty of errors that resulted in decreased productivity, security vulnerabilities and lost physical assets.

### A Piece of the Puzzle

The advent of provisioning software within identity management systems has improved the situation. With automation, companies have a better chance of keeping up with the growing number and variety of systems, applications and devices within their organizations. Automation can also help contain the costs of managing user IDs and permissions.

But self-enclosed, proprietary provisioning systems can solve only a piece of the prob-

# SPML

## DEFINITION

**Services Provisioning Markup Language** is an XML-based framework for exchanging user, resource and service provisioning information between applications and organizations.

lem. As companies increasingly consolidate their systems and open them up to customers and partners over the Internet, the need for a standard that will allow centralized provisioning within and across organizations is clear to users and vendors.

This summer, a technical working group of the Organization for the Advancement of Structured Information Standards (OASIS) publicly unveiled the Services Provisioning Markup Language to meet that need. SPML 1.0 is built on OASIS's Directory Services Markup Language V.2, which is an XML representation of the Lightweight Directory Access

Protocol. If it's ratified as expected next month, SPML will join a family of standards designed to ease the implementation of Web services, including XACML, SAML, UDDI, WSDL and SOAP (see sidebar).

The goal of ratifying the specification is to establish interoperability among provisioning systems that will allow organizations to securely create end-user accounts for Web services and applications from a single point in an organization.

In July, at Burton Group's Catalyst Conference in San Francisco, 10 vendors that had been working to create SPML under the aegis of OASIS

demonstrated that they could use one SPML request message to simultaneously create user accounts in all of their provisioning systems.

In San Francisco, all the vendors were set up in one hotel meeting room, but the idea is that SPML-enabled provisioning systems will work across geographic and corporate boundaries.

In a typical scenario, when a company hires a new employee, the HR system generates an SPML request to the company's provisioning system that creates all the access accounts the employee needs within the company. The provisioning system then automatically generates another SPML request to the provisioning systems of customer companies that give the employee access to the applications and data he needs to do his job.

Deprovisioning can be accomplished by HR by generating an SPML message request closing the employee's access accounts upon his leaving the company. The automated chain of SPML messages will then wipe out the employee's access to customer systems as well, eliminating the scourge of orphaned accounts. Used with SAML, the XML-based protocol for exchanging user authentication and authorization information, SPML may eventually be at the heart of a true single-sign-on system.

Although OASIS is just finalizing its approval of SPML, the standard has already drawn fire from critics who say that it doesn't do enough. For example, it doesn't enable functions such as moving or suspending accounts.

Chief among the naysayers have been IBM and Microsoft Corp., which have contended that SPML isn't powerful or flexible enough to work in conjunction with the group of standards the big vendors are developing, called WS-\*, which includes WS-Security and WS-Federation.

SPML 1.0 is likely to emerge as a provisional standard as OASIS, IBM and Microsoft work toward compromise.

41908

## Web Services Standards Stack

*Here's how SPML fits into the family of related protocols that have been developed to facilitate the use of Web services.*

**XACML (Extensible Access Control Markup Language)** Provides fine-grained access control to disparate devices and applications.

**SAML (Security Assertions Markup Language)** Enables the exchange of authentication and authorization information among business partners.

Enables XML-based provisioning.

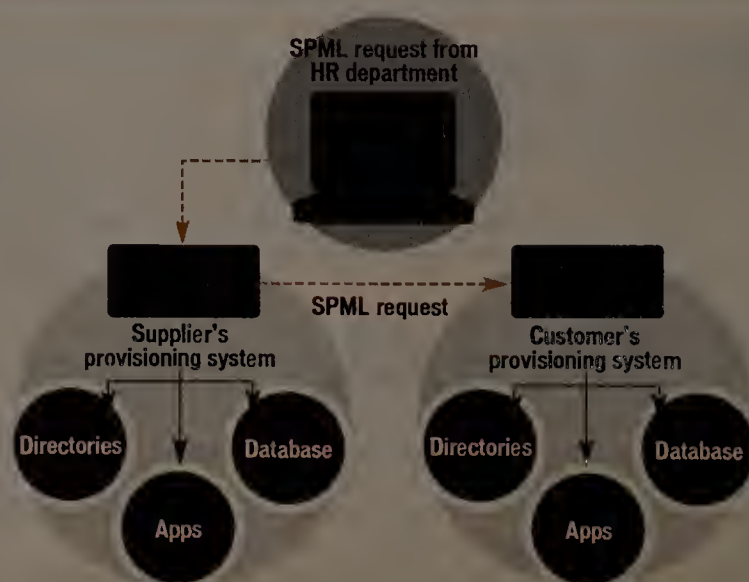
**UDDI (Universal Description, Discovery and Integration)** An XML-based, platform-independent, Internet-accessible registry in which businesses, software vendors and programmers can describe the Web services they offer and provide links on how to use them.

**WSDL (Web Services Description Language)** An XML format for describing network services as a set of endpoints operating on messages containing either document- or procedure-oriented information.

**SOAP (Simple Object Access Protocol)** Defines a framework for passing messages between systems over the Internet. It's typically used for executing remote procedure calls.

## SPML Scenario

The HR department of a supplier company adds a new employee to its personnel system, which generates an SPML document. The document is passed to the supplier's provisioning system, triggering the creation of appropriate internal accounts for the employee. The internal provisioning system forwards an SPML request to the company's customer provisioning system to create appropriate accounts there.



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# Child Porn Gets by Filters; Feds Follow

**An employee sharing child pornography online eludes detection – until investigators arrive. By Mathias Thurman**

**W**E'VE HAD SOME excitement around my department over the past few weeks involving law enforcement. If you work for an Internet service provider, you are probably familiar with what is called a Section 2703(f) court order.

Title 18 U.S.C. 2703(f) of the Electronic Communications Privacy Act of 1986 contains a provision requiring Internet service providers to take the necessary steps to preserve electronic records and other evidence pending the issuance of a court order or other legal process.

The order is simply a letter from a law enforcement agency requiring a service provider to preserve logs in preparation for a subpoena or search warrant. Receiving such letters is a common occurrence at Internet service providers — but not at my company.

## Suspicious Aired

A few weeks ago, I was called to our general counsel's office, which had received such an order. The letter, typed on fancy letterhead with a three-letter agency logo on top, instructed us to preserve any logs in relation to the network activity of one of our employees.

At the initial meeting, my team and I met with the investigator. He was fairly savvy about technology, which came as a surprise.

He said our employee was using his home computer to access child pornography on the Internet. But the investigator also suspected that the employee was sending porno-

graphic pictures, videos and Web site address information to his e-mail account at work. And the agency had reason to believe that our employee was using his company-issued workstation to access these illegal sites.

I was pretty sure that the employee couldn't use his desktop workstation to access pornography Web sites, since

we use content-filtering software that blocks access to most of them. But we had to comply with the order.

Normally, if law enforcement agents want to monitor someone's network activity, they present a Title III wiretap order. That enables investigators to install network-monitoring software that can be configured so they can monitor only a particular person's network traffic.

At our company, however, we already collect network traffic data through our intrusion-detection systems, so a Title III order wasn't needed. We typically keep three

months of data, which includes all network traffic going in and out of our company at specific gateway locations.

We have about 20 sensors to gather that data, so I suggested that we filter the data from our network sensors and use our three months of saved data to assemble a profile of the user's network activity.

The investigator agreed, but he cautioned us to maintain the same level of monitoring and to keep all archived data, even if the three-month time period was due to expire. We were not to conduct any additional network monitoring beyond what we do on a regular basis, or he would need to obtain a wiretap order.

## Getting the Data

We began to set things up. We identified which network sensor was responsible for monitoring the traffic associated with the employee in question. We configured the port connected to that sensor so it would span the port to which the suspect's workstation was attached. By doing this, we ensured that the only network traffic we were collecting was that going to and from the employee's desktop. We didn't want to provide the law enforcement officials with extra data that might contain intellectual property or potentially sensitive information.

Next, we had to figure out how to sort out the correct archived traffic data. Like most companies, we allocate IP addresses dynamically. The IP address leases are set to expire periodically, so over a three-month period, the suspect would have logged in under dozens of addresses.

Our sensors had collected several gigabytes of data, and we wanted to provide only the necessary data related to the

suspect's workstation.

Fortunately, the workstation had a unique NetBIOS network resource name based on the user's name. By knowing the NetBIOS name, we could pull the relevant data from the logs. We ended up copying the data to a CD-ROM, which we gave to the investigator when he returned with a search warrant. We are still required to keep the original data.

After that, we conducted an internal review of the user's network traffic. I was dismayed to discover that he indeed been e-mailing himself pictures and other contraband. What's more, he had used Yahoo chat groups to share his illegal materials. Our filtering software didn't block access to those groups, since the names of the groups didn't match any of the filters we had installed on our URL-filtering application. The employee had also used his desktop to e-mail pictures and video clips to others by way of a Yahoo e-mail account.

We confiscated his desktop computer and gave the hard drive to the investigator. Our human resources department is in the process of terminating this individual's employment, and I'm sure that there will be an arrest at some point.

Now that this episode is behind us, we plan to review the configuration of our filtering software and our intrusion-detection system to see what changes we can make to prevent this type of activity from recurring. In this case, the user was accessing inconspicuous chat areas. Since we aren't blocking access to Yahoo chat rooms, the challenge will be to come up with a way to minimize false positives and performance issues while still preventing unauthorized use of our resources. ▀

## WHAT DO YOU THINK?

This week's journal is written by a real security manager, "Mathias Thurman," whose name and employer have been disguised for obvious reasons. Contact him at mathias\_thurman@yahoo.com, or join the discussion in our forum. **QuickLink a1590**

To find a complete archive of our Security Manager's Journals, go online to [computerworld.com/secjournal](http://computerworld.com/secjournal)

## SECURITY LOG

### Security Bookshelf

**Kerberos: The Definitive Guide**, by Jason Garman; O'Reilly & Associates, 2003

Kerberos is one of those subjects that I always run across on certification tests, and it's mentioned lightly in authentication or single-sign-on discussions. Although Kerberos has been adopted into a majority of operating systems, including Microsoft's Windows and Active Directory, I have only a limited understanding of it, and I haven't found much documentation on it.

This book is a big help. It discusses Kerberos' origins, security and a few advanced topics such as cross-realm authentication. I especially appreciated the detailed implementation chapter, which explains how to install Kerberos within the Unix environment. If you're looking to expand your knowledge or simply need a good authentication/access-control reference book, O'Reilly has done it again.

— Mathias Thurman



## New BEA Security Architecture

Middleware maker BEA Systems Inc. in San Jose has announced a distributed security architecture, WebLogic Enterprise Security. WLES is designed to simplify application security for companies with heterogeneous application environments. Rather than managing redundant security features within each application, BEA customers will be able to use WLES for centralized security policy management through a Web-based administrative console. WLES takes advantage of technology from CrossLogix Inc., a Redwood Shores, Calif.-based developer of user access authorization software that BEA bought last February.

**SECURITY  
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**“**  
**The investigator . . . suspected that the employee was sending pornographic pictures [and] videos . . . to his e-mail account at work.**



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## BRIEFS

## Intelliden Bundles Vertical Networking

Intelliden Corp. announced the availability of networking bundles tailored for specific industries. Users can customize Intelliden's R-Series T software for the financial services, health care, retail, automotive, insurance, government and service provider vertical markets, according to the Colorado Springs-based company. Pricing starts at \$25,000.

## Sigaba Releases Secure IM Upgrade

Secure Data in Motion Inc., which is known as Sigaba, last week announced Secure Instant Messaging Version 1.2. The upgrade includes the addition of a digital signature service and an embeddable secure instant messaging (IM) applet, according to the San Mateo, Calif.-based company. Pricing starts at \$40,000 and includes Secure IM clients, the Sigaba key and authentication services.

## ElQnetworks Offers Enterprise Firewall

ElQnetworks Inc. last week announced FirewallAnalyzer Enterprise 3.0. The new version offers improved event-correlation analysis, alerting and reporting across distributed firewalls, as well as advanced user-rights management capabilities, according to Wayland, Mass.-based ElQnetworks. A FirewallAnalyzer Enterprise license costs \$795 per physical firewall.

## NaviSite to Host Exchange Services

NaviSite Inc. is offering a new managed Microsoft Exchange 2003 e-mail and collaboration hosting service aimed at midsize businesses. Pricing starts at \$12 to \$15 per user per month for 100 users, with antispam protection available for another \$1 per user per month, said the Andover, Mass.-based vendor.

ROBERT L. MITCHELL

## Six Things I Hate About IT

**D**ON'T GET ME WRONG. At heart, I'm a technology enthusiast. But there are a few things about the IT industry that just make me crazy. I'm not talking about failures of technology itself but rather failures in how people promote and use it. From gimmickry to punditry, here's what I truly hate about IT:

**1. Vendors that think they sell "solutions."** Solutions used to come from chemistry experiments or math equations. But IT vendors keep ascribing the term to their products: Just open the box and *voilà* — your problem goes away. Will someone please slap these marketing airheads? Not only do IT professionals recognize that this is total baloney, but this pretentious pitch is insulting to anyone who has spent a year or more trying to complete any major IT project. Vendors don't sell solutions. They sell their products — oversell them. IT professionals then struggle to make them work as advertised and then, if they're lucky, use those tools to solve specific problems.

**2. Companies that misuse IT to erect barriers between customer service staffers and clients.** Why use IT to build loyalty with customers when you can really tick them off by making it nearly impossible to reach a live human being? The worst offenders are consumer technology product vendors that are enamored with automated attendants, FAQs, e-mail response mechanisms and creating mazes of circuitous Web pages of "answers" that users must wade through. How about just giving customers a phone number?

Case in point: A week after buying an upgrade to my personal finance software, the vendor rolled out a new version. Was a free media or online

update available? I spent 20 minutes wading through the Web site, sent an e-mail inquiry that came back with an inappropriate response and spent 20 minutes on the phone with a customer service person who finally admitted that, yes, I could receive the new version for a \$10 media fee.

Then, to my astonishment, he asked for my address and product registration information. I have been a registered user since 1993. "Why don't you just look it up?" I asked. "I don't have access to that system," he replied.

**3. "Real-time computing."** This is just the latest in a long string of overinflated buzzwords. What's real about real-time computing? I'll tell you: It's a great rallying cry for vendors. A wonderfully amorphous and high-minded concept for analysts. A great expense-report justification for travel to a resort that hosts the conference. Everybody wins.

**4. Software vendors that assume no liability for their products.** Software will always have bugs, therefore we can't hold vendors liable for the problems they create, right? This ridiculous, defeatist argument may seem reasonable at first glance. But when vendors aren't held liable, they view bugs and vulnerabilities as a public relations problem, not a fiscal one. Should software vendors really be held to a lower standard of accountability than ven-

dors in other industries? Litigation works because it shifts the increasingly burdensome cost of bugs and security vulnerabilities from the customer to the vendor. Assuming liability means assuming responsibility. It's time this industry grew up.

**5. Vendors that would rather sue than innovate.** Don't even get me started about the ongoing SCO lawsuit. And more recently, SunnComm Technologies threatened a Princeton graduate student with legal action for pointing out that its copy-protection software can be defeated by simply holding down the Shift key after inserting a protected music CD. In so doing, maybe SunnComm thinks it will get back some shareholder value and save face. Then again, maybe it should just get to work on a better product.

**6. Those "priceless" product opinions.** After I received a preliminary copy of a vendor's new-product press release, the PR person called to say that I shouldn't excerpt the favorable quotations attributed to an industry analyst. *Computerworld* wouldn't use such quotations anyway, but I was curious.

"Why not use them?" I asked.

"We haven't run them by him for approval yet," she explained.

Do analyst firms commonly sign off on vendor-provided "commentary" for their vendor customers? I put this question to a veteran freelance writer I know who routinely works with vendors. "Of course they do," he said as if it was a silly question. "We're all whores in this business." He added that he has written faux analyst quotes for clients himself. "But the better analysts do rewrite them," he noted.

That's my list. What's on yours? Let me know what really bugs you about IT. **42097**

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# OK, our marketing is not as great as our technology.

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	Technology Rating	Marketing Rating
MicroStrategy	★ ★ ★ ★ ★	★ ★ ★
Cognos	★ ★ ★	★ ★ ★ ★
Business Objects	★ ★ ★	★ ★ ★ ★ ★

Source: Leading Industry Analyst (2003)

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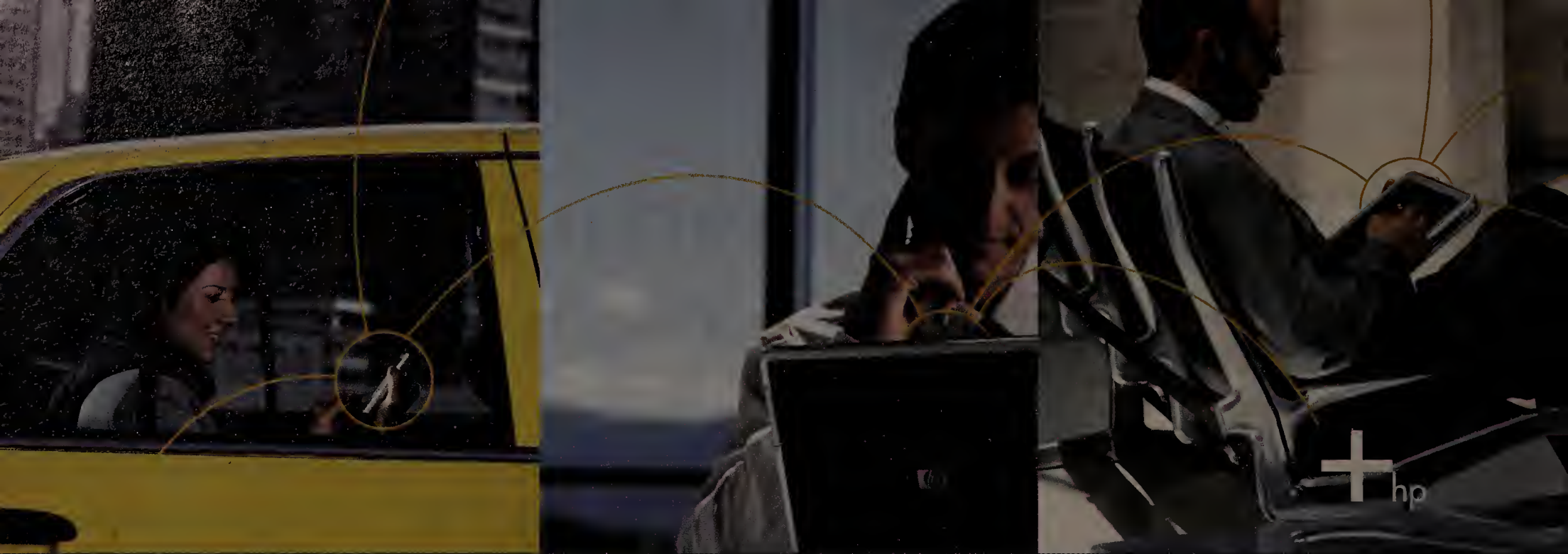
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## OPINION

### The Marriage of ROI and SLA

Columnist Tom Pisello (left) says that if an IT project falls short of its agreed-upon ROI target, the vendor should pay a penalty. But if it exceeds the mark, the vendor should get a bonus. **Page 52**

## Q&A

### More Bang for the Buck

Diana Farrell, director of the McKinsey Global Institute, talks about how companies can gain more productivity from their IT investments. **Page 51**

### Let's Make a Deal

Experts explain how to get the best deal for IT when negotiating with business units and vendors. **Page 50**



# Free Hot Spots Pay Dividends

**A**T FIRST GLANCE, it might not make sense for profit-making businesses to give away, rather than charge for, wireless Internet access. But a growing number of hotels and restaurants have found that it pays to offer free Wi-Fi Internet access. This perk attracts customers and provides a real bottom-line payback for a relatively small capital investment, according to free-Wi-Fi pioneers.

Cities and community development organizations across the country have embraced free Wi-Fi to boost economic development and attract visitors to downtown areas. A handful of small airports in the shadow of large hubs offer free Wi-Fi to attract travelers. And Verizon Communications Inc. in New York offers Wi-Fi free of charge to its Internet service subscribers to distinguish itself from its cable-modem rivals.

Operators of free Wi-Fi hot spots are capitalizing on the boom market in Wi-Fi-enabled notebook and handheld computers. Gemma Paulo, an analyst at In-Stat/MDR in Scottsdale, Ariz., estimates that shipments of notebooks equipped with industry-standard 802.11b chips or cards — which offer a raw data rate of 11Mbit/sec. at a range of 100 feet indoors and 300 feet outdoors — will hit 16 million this year.

Free Wi-Fi is an alternative to paid services offered

by companies such as Starbucks Corp., which, in partnership with T-Mobile USA, currently offers Wi-Fi service at rates ranging from \$9.99 per day to \$29.99 per month in 2,300 of its coffee shops.

Lovina McMurchy, director of Starbucks Interactive, says the paid Wi-Fi service helps attract customers after peak morning hours. And those who use it tend to be “high-income customers” who “come more often and stay longer,” she says. She declined to

reveal the service's impact on the company's bottom line.

John Wooley, chairman, CEO and president of restaurant chain Schlotzsky's Inc. in Austin, isn't so shy in sharing details of what he calls the “strong ROI” from the company's free Wi-Fi service. Schlotzsky's currently offers free Wi-Fi in 30 of its 600 company-owned or franchised Schlotzsky's Delis. Wooley says he figures that the free Wi-Fi results in an additional 15,000 visits per restaurant per year by customers

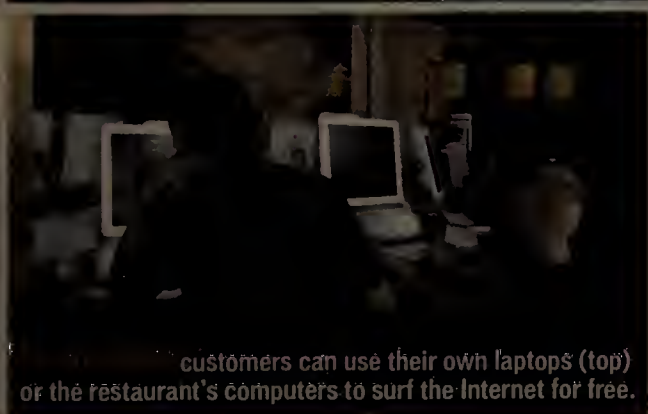
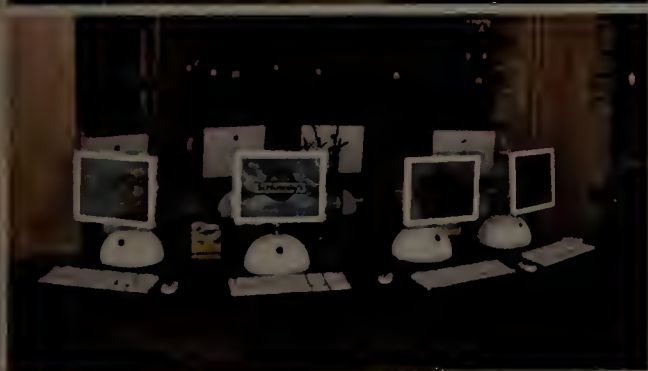
who spend an average of \$7 per visit.

That means Wi-Fi service brings in more than \$100,000 per year per outlet in return for an investment of about \$8,000 per restaurant for wireless infrastructure, Wooley says. The largest continuing cost is backhaul to the Internet over 1.54Mbit/sec. T1 circuits, Wooley says. Since the cost of a T1 circuit varies from \$300 to \$700, depending on what part of

## PREDICTION

of notebook computers shipped in 2005 will have embedded Wi-Fi.

**Some hotels, restaurants and airports are offering wireless Internet access — at no charge — in the battle to lure customers and deliver ROI. By Bob Brewin**



customers can use their own laptops (top) or the restaurant's computers to surf the Internet for free.





the country you're in, he says Schlotzsky's would average those costs to induce existing franchisees to offer the service. (New franchisees will be required to offer free Wi-Fi, Wooley notes.)

## Guerrilla Marketing

Wooley also uses the free Wi-Fi service as a high-tech marketing tool. When wireless users first connect to the Schlotzsky's Wi-Fi network, they're shunted to an in-house "splash" Web page that the chain uses to promote itself and its bill of fare.

Schlotzsky's has even bought high-gain Wi-Fi antennas that transmit the splash page as far outside its restaurants as possible, Wooley says. One Austin outlet beams its signal into dorm rooms at the University of Texas, and another beams it into a competing Starbucks. This high-tech guerrilla marketing campaign to grab the eyeballs of potential customers is less expensive and potentially more targeted than buying a 30-second TV commercial, Wooley says.

Panera Bread Co., based in Richmond Heights, Mo., has also embraced free Wi-Fi as a marketing tool and plans to offer the service in 130 of its 600 bakery cafes by year's end, eventually extending the service chainwide. Ron Shaich, the company's chairman and CEO, says he views free Wi-Fi as an amenity that has already started to attract and retain customers at what he calls a "minimal cost."

In fact, Shaich considers free Wi-Fi to be such an

essential marketing tool that he dismisses any discussion of ROI. "What is the ROI on a bathroom?" asked Shaich, pointing out that the day of pay restrooms in restaurants has long since passed.

Keith Pierce, president and CEO of Parsippany, N.J.-based Wingate Inns International Inc. says he has enlisted free Wi-Fi as his newest weapon in a technology arms race to attract budget-minded business travelers. Pierce says Wingate, a division of travel conglomerate Cendant Corp., started offering free wired Internet access four years ago as part of an all-inclusive room rate that also included free local phone calls and free use of on-premises business centers.

Now that competitors have started to offer free wired Internet service, Pierce has raised the ante by rolling out free Wi-Fi throughout the chain, with all 100-plus properties expected to offer the service by the start of next year.

Pierce says he didn't even consider paid Wi-Fi service, saying his research shows that going the paid route isn't worth the effort. Under the paid model, Pierce calculated that a typical property would have roughly two paid Wi-Fi users a day. After splitting the revenue with a Wi-Fi operator, Pierce says this would return only about \$7.50 a day to the franchisee.

Wingate has outsourced deployment and operation of its free Wi-Fi service to LodgeNet Entertainment Corp. in Sioux Falls, S.D., the company that also provides Wingate with in-room pay movies and video games.

## Easier and Cheaper Than Ethernet

Apple Core Hotels Inc., a New York-based operator of six budget hotels in mid-Manhattan that cater to business travelers, knew it needed to offer free Internet access for competitive reasons, says Vijay Dandapani, the company's chief operating officer. Dandapani says Apple Core chose Wi-Fi instead of Ethernet because it was far easier and cheaper to install in the company's hotels, which are rehabilitated buildings that are all at least 100 years old.

Installing Ethernet connections would have required drilling into walls and "making a mess" of wallpaper and carpet, Dandapani says. Installation of

the Wi-Fi service went quickly, he adds, taking about six weeks per property.

Installation was a learning process, Dandapani says. Buildings with high ceilings, which allow for better propagation of the Wi-Fi signal, required only two access points per floor. Buildings with lower ceilings — and worse signal propagation — required four access points per floor.

Beachfront Hawaii might be the last place you'd expect to find a Wi-Fi hot spot, but Waimea Plantation Cottages on the island of Kauai operates what's probably the westernmost Wi-Fi service in the U.S., free or paid. It's five miles from the end of a dead-end road on Kauai's western shore.

Liz Hahn, a spokeswoman for Kikiaolua Land Co. in Waimea, Hawaii, which operates the cottages, says the company decided to offer free Wi-Fi as a perk to

guests to enhance their vacation experience. "People can get up in the morning, check their e-mail and then spend the rest of day relaxing," Hahn says.

Customer service and satisfaction at a relatively low capital cost means that free Wi-Fi will continue to proliferate at the expense of the paid model, according to Schlotzsky's Wooley. "I think pay Wi-Fi is going to go away," he says. Panera's Shaich agrees, saying hotel and restaurant customers will eventually come to expect free Wi-Fi access.

Dan Lowden, the vice president of marketing at Wayport Inc., a Wi-Fi network company that offers paid service at 545 hotels and 12 airports, at rates

that range from \$6.95 for a single connection to \$29.95 a month, contends that the paid and free models will coexist.

Paid networks offer higher-quality service with better hardware and carrier-grade networks, Lowden says. He adds that Wayport offers its paid service in locations untouched by free Wi-Fi providers, such as major airports. Maybe not for long, though. Wooley says he has his eye on offering free Wi-Fi in airports.

Craig Mathias, an analyst at Farpoint Group in Ashland, Mass., predicts that free and paid Wi-Fi will coexist for the next five to 10 years. But he says the paid model will eventually prevail, as cellular carriers add Wi-Fi service to their portfolios and dominate the market. **Q 41902**

## COMMUNITY WI-FI

Cities and community organizations are launching free Wi-Fi hot zones — ranging in size from four blocks to 10 miles — as economic development tools:

### QuickLink 41975

Verizon is using aging pay phones for quick deployment of a Wi-Fi network in New York:

### QuickLink 41901

A guide to online sources of information about Wi-Fi hot spots:



### QuickLink 41976

[www.computerworld.com](http://www.computerworld.com)

# Free Airport Wi-Fi Takes Off

At least three U.S. airports — led by pioneering **Blue Grass Airport** in Lexington, Ky. — now offer free Wi-Fi service as a way to satisfy customers and compete with larger hub airports nearby that offer pay service.

Blue Grass kicked off its free Wi-Fi service in the fall of 2001 in response to demand by business travelers who said they wanted Internet access. Marketing director Tom Tyra says the airport, which is served by six airlines, knows it's in a niche market and has to work a bit harder to compete with Cincinnati/Northern Kentucky International Airport, a giant Delta Air Lines hub that's just 75 miles away.

David Heinmiller, computer systems administrator at Blue Grass, says the airport's Wi-Fi network consists of seven Cisco

Systems Inc. Aironet 350 access points connected to a T1 backbone with omnidirectional antennas.

To support travelers whose notebook computers lack Wi-Fi cards, Blue Grass also installed Ethernet jacks throughout the airport. But Heinmiller says these are Ethernet jacks with a twist: Instead of connecting to a cable, they serve as the front end to a wireless client device.

**Long Beach Airport** in California turned on its free Wi-Fi service in June as an extension of a project to develop a free Wi-Fi hot zone in downtown Long Beach. Whereas Blue Grass offers just a Wi-Fi signal, Long Beach decided to use the airport network as a marketing vehicle, with users directed to a Web portal splash page once they sign onto the network.

JetBlue Airways Corp. helped develop Long Beach Airport's free Wi-Fi network and sponsors the Web portal, according to Lorenzo Gigliotti, head of G-site Web & Consulting in Long Beach, which developed the portal. In return for its sponsorship, JetBlue owns a sizable portion of the real estate on the Web page, which features links to local business, information, entertainment and tourist Web sites, Gigliotti says.

**Colorado Springs Airport** launched its bare-bones Wi-Fi service — just a signal, with no Web portal — this August to give it an edge in its competition with Denver International Airport, which is less than a two-hour drive north, according to Tack Rice, an information systems analyst at Colorado Springs Airport.

— Bob Brinn





JONATHAN WEINER

# THE Silent ROI Killer

The productivity of IT staffers and e-mail users takes a big hit from the scourge of spam. By Ian Campbell and Rebecca Wettemann

**H**OW DO YOU REDUCE the impact of spam on employee productivity without overinvesting in technology?

To answer that question, our team at Nucleus Research Inc. conducted in-depth interviews with 117 employees at 76 U.S. companies to learn about their experience with spam. We also conducted extensive interviews with 28 IT administrators responsible for managing e-mail and other corporate applications to understand the impact of spam on IT infrastructure and resources. Here's what we found:

- **The average employee receives 13.3 spam messages per day.**
- **Employees spend anywhere from 1 minute to 90 minutes per day managing spam – the average time being 6.5 minutes per day.**
- **The average lost productivity per employee per year: 1.4%.**
- **The average cost of spam per employee per year: \$874.**

Some employees had such severe spam problems that they were forced to invest in desktop filters and then learn to use them. But even with the filters adjusted to their personal profiles and preferences, these individuals still spent an average of 12.5 minutes per day — nearly twice the average — screening and managing incoming mail, at a cost of \$1,625 per year in lost productivity. This figure is a leading indicator of the potential cost of spam as volumes grow. So even for highly trained users with sophisticated personalized filtering devices, spam had a dramatic negative effect on productivity.

If companies lose an average of 1.4% of each employee's productivity each year because of spam, then for every 72 employees a company has, it loses the equivalent of at least one employee's services to spam for the year.

Organizations can somewhat reduce the impact of spam on their employees by deploying company-wide spam filters. Filter technology isn't perfect, but we found that it reduced the average amount of time employees spend managing spam to five minutes a day, cutting the average annual cost per employee 26% to \$650.

However, administrators have found a number of challenges with filters:

- **Spam sophistication.** Spammers use punctuation, spaces and other

methods to avoid the rules that filters use to block spam.

- **Ineffective technology.** Many administrators found that aggressive filters delayed or aborted delivery of business messages or were ineffective in filtering out spam unless it met specific guidelines.

- **Employee adoption.** While many companies had filters in place, employee use of the filters varied, and additional employee education efforts were needed.

- **Effective policies and management.** Although many companies had e-mail policies, they didn't have a consistent corporate strategy for educating employees about spam, resulting in ad hoc employee education instead of widespread understanding (see box).

So filtering technology isn't a panacea. As spam volume and spammers' sophistication grow, the problem will just get worse for most organizations, even those with sophisticated filtering.

## IT's Problem, Too

We found that the average amount of time IT staffs spend managing spam-related problems each week was 4.5 hours — half a day! And

## Management Tips

- **Educate users about spam avoidance** (such as not replying to spam).
- **Create an internal Web page that explains the employer's efforts to fight spam**, including a frequently asked questions section. (This may reduce calls to the help desk.)
- **Take "fair and reasonable" efforts to control spam**, as a defense against lawsuits charging a hostile work environment.
- **Update the company e-mail and communications policy** to inform users that the company installed a spam filter but can't guarantee that 100% of spam will be filtered. Ban employees from initiating spam or forwarding spam.
- **Recognize that spam is becoming a security problem**, with the emergence of worms that use spammer techniques for propagation, as well as spammers' use of worm variants to get their messages through.
- **Remember that spam filtering should vary by industry or department.** In the health care industry, for example, legitimate messages may have the names of certain drugs or body parts. And e-mail from complaining customers may have words that filters interpret as spam.

IT staffers aren't just managing filters and deleting messages. They're responding to help desk requests, ensuring that employees who've received offensive e-mails feel they've gotten an appropriate response to their problem, and educating users about spam and how they can limit their exposure.

Some companies are spending nearly a quarter of an IT employee's time managing spam issues. Companies should assume that, on a per-mailbox basis, administrators will spend an average of 0.7 minutes per employee per week on spam-related issues.

In theory, that means that for every 690 employees, one full-time IT staff person will be needed just to manage spam. (In reality, it probably means that the existing IT employees just become more overworked or have to put out spam fires instead of doing more profitable activities.)

Many companies worry that, even with filters, unsolicited e-mail sent to employees may provoke legal action. According to one IT administrator, "One of the reasons we got into spam filtering is the offensive-content lawsuits that could arise."


So what do you do about the rising cost of spam? Employee training, filters and California's new antispam law are a good start, but they won't solve the problem. Recent activity by Microsoft Corp. and others in pursuing legal action against spammers suggests another approach. In June, Microsoft filed 15 lawsuits against spammers; Amazon.com Inc. followed in August with lawsuits against 11 Internet advertisers, which Amazon accuses of spoofing its e-mail address to send spam.

Given the cost of spam, large companies may want to consider similar legal action, which is potentially more cost-effective than simply investing in a filter that will only reduce, not eliminate, spam's impact. ☎ 41896

*Campbell is president and CEO of Nucleus Research Inc., an independent research firm in Wellesley, Mass. Wettemann is vice president of research at the firm.*

## SPAM NEWS

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# Let's Make a DEAL

**NEGOTIATING – WITH BUSINESS UNITS AND WITH VENDORS – IS A BASIC PART OF IT LIFE. HERE'S HOW TO DO IT BETTER. BY KATHLEEN MELYMUKA**

**A**S MANAGER of the program control office at Main Street America Group, Paul Freitas oversees IT projects at the insurance company's Jacksonville, Fla., offices. He makes plenty of deals with vendors, but some of his toughest negotiations involve prying human resources from hard-pressed internal managers.

Similarly, Bridget Finerty, head of the service assurance center at The Mitre Corp. in Bedford, Mass., negotiates with department heads for project resources and with internal customers on service-level agreements. Intra-corporate bargaining is so much a part of her job at the not-for-profit research organization that she thinks of *negotiation* as "another word for navigating through conversations."

Although vendor negotiations get a

lot of attention, most IT negotiations are internal. "In IT, you negotiate all day long — with co-workers, teammates, internal IT clients and business clients, not to mention vendors," says Lisha Wentworth, a senior facilitator at Ouellette & Associates in Bedford, N.H., which runs negotiating workshops for IT professionals.

## HOW TO

Negotiations in IT are challenging because they require

"a wide bandwidth of personality," says G. Richard Shell, professor of legal studies and management at the Wharton School at the University of Pennsylvania and author of *Bargaining for Advantage* (Penguin, 1999). "Inside negotiations require tact and diplomacy, and outside negotiations sometimes require you to be pretty tough," he explains. Here's some advice from experts for getting to a better deal:

**DO YOUR HOMEWORK.** "Preparation is

critical," says Robert Mnookin, chairman of the Program on Negotiation at Harvard Law School and author of *Beyond Winning: Negotiating to Create Value in Deals and Disputes* (Harvard University Press, 2000). Gather information about hidden pressures in the other party's department. Consider possible scenarios ahead of time.

**DON'T PLAY TO WIN.** "One of the biggest errors in negotiation is to see it as a zero-sum game: What you win, I lose; what I win, you lose," Mnookin says. "You can often expand the pie for the win-win." This is especially important in intracorporate IT deals.

**CONSIDER THE ALTERNATIVES.** Before you begin, think of the alternative if no deal is reached. For example, as the IT leader, can you move on to a different project if the other party won't commit enough resources? "The better that alternative, the more power you'll have at the bargaining table," Mnookin says. During the negotiation, compare that alternative with whatever is on the table, Wentworth adds. "If the negotiation is going badly, ask yourself: Is agreeing to what they want better or worse than the alternative?" she says.

**FIND THEIR INTERESTS.** "It's critical to ask questions so you can better understand not only their positions but the underlying needs and interests," says Mnookin. "Interests" are the real needs behind stated positions. A "position" is that a manager can spare only two employees to work on an IT project, for example, but his interests may be in staffing a higher-priority project or gearing up for a sales campaign. Positions set up a "linear tug of war," Wentworth says.

**BEWARE THE HIDDEN AGENDA.** If the other party gets evasive or his demands just don't add up, he may have a hidden agenda, Shell says. Use your network around the company to try to find out what's really going on.

**GENERATE OPTIONS.** Brainstorm to generate options. Might you move a timetable up or back? Or use a business analyst earlier in the project to free him up later? "Take a piece of this option, and add this one, and they become a solution," says Wentworth.

**RECOGNIZE LEVERAGE.** The person with the least to lose if the negotiation fails has the most leverage, Wentworth says. And leverage isn't static. "As soon as the other person says, 'I've got to have that,' you've got leverage," she says. Although you may be negotiating with an internal client several layers above you in rank, you probably have more leverage than you think. "IT is particularly powerful because it controls an asset

## TACTICS

Whether you use these common negotiating tactics or your colleagues do, Ouellette & Associates' Lisha Wentworth suggests that you be aware of them:

■ **The flinch.** Making a dramatic, negative, often vocal response, calculated to shake up the other side.

■ **The decoy.** Relenting on a fake issue to get a concession on a real one.

■ **Nibbling.** Trying to get more after the deal is complete.

■ **The consistency trap.** Trying to use some comment to hem the other side in, as in, "You said you wanted to save money; this saves you money."

■ **Good cop/bad cop.** Tag-teaming, where one colleague nurtures the relationship and the other plays hardball.



## NEGOTIATING STYLES

Recognizing your own negotiating style and that of the other party can help you anticipate his approach and avoid being hooked into an emotional response, says Lisha Wentworth of Ouellette & Associates. Here are the basic negotiation styles:

### Competitor

■ Attacks; looks for control  
**GOAL:** To win

### Problem-Solver

■ Collaborates; looks for underlying problems  
**GOAL:** To reason together

### Compromiser

■ Nurtures the relationship; looks for fairness  
**GOAL:** To split the difference

### Accommodator

■ Conciliates; looks to smooth things over  
**GOAL:** To solve other people's problems

### Avoider

■ Hides; looks for escape.  
**GOAL:** To avoid conflict



ILLUSTRATIONS BY ISABELLE CARDINAL

that everyone needs," Shell observes.

**EMPATHIZE – TO A POINT.** "Manage the tension between empathy and assertiveness," says Mnookin. "Some negotiators are great at assertion but lousy at listening. Others hear the other side and can't hold on to their own interests. You need to do both."

**BE CONSCIOUS OF STYLE – YOURS AND THEIRS.** Recognize your own negotiating style, and try to figure out the style of the other party.

"If I'm accommodating and he's competitive, I may think we can work together, but he'll ding me and I'll get mad," Wentworth explains. "If you know what to expect from the start, you can avoid falling into emotional traps." **Q 41490**

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# More Bang For the Buck

## How to get more productivity from your IT investments.



For more than two years, the McKinsey Global Institute, the economic think tank of consulting firm McKinsey & Co., has been studying productivity and its connection with corporate IT spending in 20 industries in the U.S., Germany and France. In this

month's Harvard Business Review, the institute's director, **Diana Farrell**, reports that IT's role in the New Economy is more complicated than generally assumed.

Farrell talked from her San Francisco office with Kathleen Melymuka about the role technology has been playing in driving productivity and how companies can make more effective use of IT going forward.

**What caused the productivity surges of the 1990s?** Real productivity surges came in six sectors only: retailing, securities brokerages, wholesaling, semiconductors, computer assembly and telecommunications. You can begin to see a pattern: an environment that allows intense competition to take place. In retail, for example, Wal-Mart's innovation raised the competitive intensity, forcing competitors to adopt innovations, and that retail pressure put pressure on wholesalers.

**Where does IT come into play as a productivity tool?** It's the way IT enables the productivity process that makes it such a powerful tool. It helps in the introduction of new products and services. It makes innovations so much more replicable and scalable. And its benefits multiply as it scales, so it allows

you to deal with much more complexity. It's a very powerful tool.

**Which industries benefit most from IT, and why?** I can answer much better at a subsector level. Where we really see payoff is in certain subsectors that are well suited to technical innovation. For example, in retail general merchandising, you have very high throughput, and that's better suited to technological innovation than in apparel, where you don't have the same volumes.

**What differentiates the companies that gained the most from IT?** First, they target the technology investment to their very specific subsegment and to operational levers that matter for their industry. You don't make a large investment in a lever that, even if it moves, doesn't really affect the business model or one that couldn't move enough to make a difference because other barriers in the marketplace make that impossible.

Hotels spent an enormous amount in IT investment. But if you look at the operations of a hotel, the biggest chunk of ongoing cost comes down to the labor pool — the cleaning and maintenance people. IT was focusing on reservations and not on what drove the economics of the system. So they had a huge investment that didn't pay off.

The second thing is they recognize that IT investment and business process changes are a co-revolution. You can't solve business problems by throwing IT at them. You need to optimize the business process and enable it through IT.

Retailers, for example, have to start by cleaning their internal data before they warehouse it and extend the technology to their suppliers. Working in tandem with business process

changes is so obvious, but it's lost on many people.

**How do I find my company's productivity levers?** We've identified eight operational levers that are generic through all companies [see box]. For example, you can reduce labor costs or nonlabor costs. The real key is to take this

### Productivity Levers

**Productivity** is defined as the output of production per unit of input. For example, it could be the number of widgets produced per hour of labor. Diana Farrell of the McKinsey Global Institute offers eight productivity levers to help you target IT investments to the areas that really matter to your business.

#### TO INCREASE OUTPUTS

**Increase the number of units produced by:**

- Increasing labor efficiency
- Increasing asset use

**Increase the value of the portfolio by:**

- Selling new value-added goods and services
- Shifting to higher-value goods in the current portfolio
- Realizing more value from goods in the current portfolio

#### TO DECREASE INPUTS

**Reduce labor costs by:**

- Substituting capital for labor
- Deploying labor more effectively

**Reduce nonlabor costs by:**

- Reducing inventory holding costs, real estate costs and other costs

generic list and say, If I'm in the hotel industry, there is very little substitution of capital for labor that will yield much impact. You have to ask, Given my operational model, if we move this lever 100%, what would be the impact on the bottom line? Those questions are not asked as systematically as you would think.

**Talk about the importance of sequencing in IT investments.** Retail is a good example. You can look at the range of IT investments a retailer would make over time. You start with basic help in moving products from suppliers to customers — data integration, distribution logistics. Then you try differentiating technologies like fine-tuning merchandise planning. Finally, you move on to next-frontier investment — customer experience solutions: things that make them feel it's all tailored to them.

In the IT world, there's a lot of excitement about all this sophisticated stuff, but if you don't get your data cleaned up first, you don't have the ability to take advantage of those later investments. You'd be amazed at how many businesses made very large investments in CRM before they had clean data. The technology had no impact. It was yielding garbage.

**How can a company hold on to the competitive edge from its IT innovations?** Couple the innovation with other advantages that are less replicable. For example, CRM. Anyone can buy CRM. It's important to build in organizational changes and processes to make the CRM effective and not really possible for others to replicate.

**When should a company take the lead in IT, and when should it follow?** You don't enter into leading-edge investment unless you feel it's really targeted to levers that matter for you and unless you can couple the investment with other advantages like scale, tacit knowledge or some other capability that gives you reason to believe that what you do won't just be replicated by others or that even if others follow, they won't get the same bang for the buck. Otherwise, wait for the leading edge to be worked out by your competitors and then adopt it. ☎ 41620

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This is the latest in a series of monthly discussions with Harvard Business Review authors on topics of interest to IT managers.



## BRIEFS

Delphi Appoints  
Global IT Executive

Delphi Corp. in Troy, Mich., has named John Guevara as director of global infrastructure services. In this new role, he will oversee the auto parts maker's global network, telecommunications, mainframe and desktop systems, as well as the corporate IT security program. Guevara, who became CIO at Delphi Mexico in 2001, replaces Gary Robertson, who retired after 38 years at the company. Prior to joining Delphi, Guevara was vice president of information systems at Siemens Group.

## Medco Cuts IT Jobs

Medco Health Solutions Inc., a pharmacy benefits management company spun off from Merck & Co. in August, is cutting approximately 90 IT workers at its Franklin Lakes, N.J., and Montvale, N.J., offices. The company said it is restructuring its IT department to improve customer service and efficiency.

Accenture Partner Is  
Now Bombay Co. CIO

The Bombay Co., a Fort Worth, Texas-based retailer, has hired Loretta Doblado as senior vice president and CIO. Doblado previously was a partner in Hamilton, Bermuda-based Accenture Ltd.'s retail practice, where she led operational changes in the areas of corporate IT processes and systems applications for J.C. Penney Co., Zale Corp., Michaels Stores Inc. and other companies.

Oregon Health Insurer  
Names New CIO

Cheron Vail has joined The Regence Group in Portland, Ore., as its CIO. She will lead the health insurer's IT team in four North-western states. Vail most recently worked as CIO at Providence Health Plans and in IT roles at Aetna Health Plans, First Dental Health and Science Applications International Corp.

TOM PISELLO

The Marriage of  
ROI and SLA

**P**RESSURE IS HIGH for IT executives to deliver rock-solid strategies on smaller budgets. Meanwhile, enterprises have a low tolerance for project failure, or spending that falls short of expectations. This has set the stage for a closer, more fruitful relationship with vendors that can help companies reduce the risks and maximize the rewards from every IT investment.

One way to bring about such a relationship is to use the service-level agreement (SLA) — long valued as a

tool for guaranteeing availability and responsiveness — as a way to ensure a return on investment. Under this model, vendors would partner with their customers to ensure that ROI goals are realized and tie their financial compensation to the achievement of key benefits.

Let's say a company buys CRM software and establishes a minimum expected ROI. If the minimum benefits aren't realized, it's up to the vendor to help remedy the situation. If the vendor still fails to deliver, financial penalties kick in. On the flip side, if the system delivers a higher ROI than expected, the vendor gets a financial reward (or less-tangible rewards such as public testimonials or future contract extensions).

This may be radical thinking. But considering that two-thirds of IT projects run over budget or fail to meet the schedule and one-third are canceled completely — and that even when a project is successfully deployed, over half fail to deliver on ROI expectations — offloading some of the risk to the vendor is worth a second look. Besides, vendors would have a vested in-

terest in making sure their products actually deliver business value, instead of just dumping the product on the user's doorstep.

The ROI SLA can be mutually beneficial to IT departments, business units and vendors. Success requires close collaboration between the parties every step of the way, from planning the system to implementing it and managing it. In the process, CIOs can be confident that IT projects will be less risky and

will deliver tangible gains. Perhaps they'll even have easier budget approval cycles with the chief financial officer, CEO and board of directors. Developing an SLA upfront ensures that all stakeholders understand the proposed costs, benefits and ROI — and commit to their accuracy.

If a project veers off course and the vendor and user are already tracking costs and benefits, they're able to step in for quick remediation if costs surpass expectations or benefits fall short of projections.

From the IT vendor's perspective, an ROI SLA is a difficult proposition, because it creates uncertainty about revenue. The vendor is relying on the

customer to successfully implement the system, and there's the potential for an increase in expenses to meet the SLA. On the other hand, the SLA could greatly shorten the sales cycle by reducing doubts a prospect may have about implementing the product. Also, if the project exceeds expectations, the vendor can significantly increase revenue.

## Putting It Into Practice

The building blocks already exist. Many vendors are trying to help users calculate returns on investments. And SLAs are commonplace in areas such as networking and outsourcing.

Setting the benchmark for the expected ROI may seem to be a big challenge, with the risk of a breakdown in SLA negotiations. Arguably, a vendor would push for a modest level of returns, and a buyer would demand a higher level. In reality, the vendor's business case must be realistic, achievable, customized for the customer's unique situation and, of course, compelling enough that the sale is approved. For an added level of reassurance that the ROI benchmark is set fairly, the business case could be validated by a neutral third party.

Given the dramatic changes in IT spending practices over the past three years and the current high level of fiscal scrutiny on investments, now is the time to move toward shared risk and reward in major technology projects. While status quo is the comfortable choice, early adopters of ROI SLAs will take the lead in finding true IT partners (not merely technology vendors), thus mitigating risk and increasing the likelihood of seeing rewards.

42060

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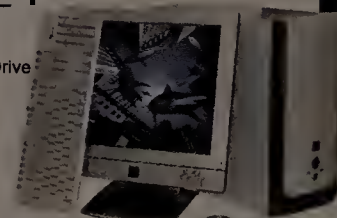
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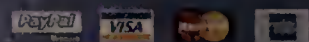
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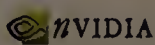
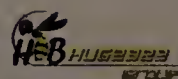
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# IT Careers: Efforts Target Diversity Hiring in IT Profession

Two major initiatives are pushing the role of minority hiring as the information technology profession gears up to add people. The NAACP and Society of Hispanic Professional Engineers are coordinating with SHOMEX, one of the nation's leading diversity job fair firms, to provide information to companies and professionals.

According to Cristopher Levy, vice president of marketing for SHOMEX, his firm pulsed more than 15,000 companies who use SHOMEX to identify seven communities to implement information technology, information systems and engineering related job fairs. The fairs – to be held in Boston, Chicago, Dallas, Los Angeles, Philadelphia, Santa Clara, CA and Washington, DC – will feature a range of high tech and non-IT companies. "They are consumer products, food service, and large manufacturers such as Northrop Grumman and Raytheon," says Levy. The job fairs reflect SHOMEX's effort to expand diversity partnerships in the major metro markets. "We will continue to work with NAACP branches and state conferences, but will also expand partnerships with the Urban League, LULAC, BDPA and other leading diversity groups.

"Just as important is that there are certain key (geographic) markets to watch and certain sectors, from security and defense to pharmaceuticals and health care," Levy says. "And while our business model has long been one that has expertise in diversity recruiting, we're seeing this hiring surge as a reflection of economics as much as ethnicity."

During National Hispanic Heritage Month (Sept. 15-Oct. 15), additional focus was given to the Hispanic Engineering and Information Technology report, "Latinos and Information Technology: The Promise and the Challenge." Commissioned by IBM and conducted by the Tomas Rivera Policy Institute, the study pinpointed that African-



Americans, Latinos and Native Americans make up 15% of the total U.S. workforce. However, they claim only 6.7% of computer and information science jobs and 5.9% of engineering opportunities. Just as important, Latinos comprise 1.7% of the U.S. computer science faculty and 4.9% of the engineering faculty. On the extreme opposite side, 42% of Hispanic youths drop out of high school.

Those are data points the Hispanic Digital Divide Task Force is out to change. The group has set four basic goals – to assure access to the Internet and provide for its use by the Hispanic community; provide learning opportunities for computer literacy; develop employment opportunities in IT; and analyze institutions and individuals who can help lead the effort.

Serving on the task force are Victor Cabral, VP-Government and Hispanic Affairs, Verizon Communications; Maria Villar, VP-eBusiness Transformation Planning, IBM Corporation; Ronald Blackburn Moreno, President and CEO, ASPIRA; Raul Cosio, VP-eBusiness Transformation, IBM; Antonio Flores, President, Hispanic Association of Colleges and Universities; Luis Miranda, President, Miranda y Mas; the Hon. Silvestre Reyes, D-TX, U.S. House of Representatives; and Carmen Varela Russo, CEO, Baltimore Public Schools. The net result will be that companies looking to reflect the footprint of their companies will be seeking technical talent from a diverse pool, one that is highlighted by the task force's work and at the SHOMEX job fairs.

For more information about IT Careers advertising, please contact:

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COMPUTER PricewaterhouseCoopers LLP's Forensic Technology Solutions practice has opportunities available for experienced professionals in the area of Computer Systems Analyst. Position requires a bachelor's degree (master's preferred) in CS or MIS and 1 to 5 yrs related exp., including exp with database development, application development, and/or computer forensics. Job site/location: NY, NY. Interested candidates please reference job code 52YMD8 & fax your resume to MMR et 267-330-4320. No phone calls please. Employer will only consider applicants authorized to work for any employer in the U.S.

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## Technical Manager

Technical Manager (eIT). Durham, NC. Manage and advise technical staff in the eIT Delivery Group, incl. developers, analysts and consultants. Ensure coding guidelines and Change Management processes are in place and adhered to. Strategically direct the team on a global level, utilizing understanding of Intranet and Extranet platform technologies and of tech. and business issues of customer base. Provide leadership to team in tech. consultation, analysis and design, dvpmt., implem., and tech. support for eBusiness projects. Provide time and cost estimates for tech. aspects of projects. Ensure that technical implementation adheres to standards and that services are suitable for turnover to Operations staff. Stay abreast of new technologies as they arise. Req.: Bachelor's degree or foreign equiv. in Computer Science or related engineering field. Minimum of 3 year experience required in job offered or as web developer including 3 years experience in the following, which may have been obtained concurrently: Plumtree, Verity, Netegrity and Interwoven; NT/IIS administration ASP, HTML, XML, Java, Javascript, ODBC and MTS; Intranet and Extranet technical experience including portals, search service, web hosting platforms and taxonomies; and, project management and technical consulting for web applications in a business environment.

GSK is dedicated to an innovative workplace and supports you w/career long opportunities & learning. We offer a competitive benefits and compensation package. For confidential consideration please forward 2 copies of your resume to: BHG Box 28228, 220 E. 42nd St., 14th Fl., NY, NY 10017. Indicating ad code "TM" is essential. Principals only, no agencies. We are an Equal Opportunity Employer M/F/D/V.

**COMMUNICATION SYSTEMS ENGINEER** (Weston, FL): Propose solutions to improve and enhance existing hardware and software telecommunication architectures. Design, develop, test, implement and analyze technical products and systems focused on wireless technology (Wireless Internet platform - (WAP Technology)). Min. of (1) Bachelor's degree or equiv. in Electrical Engrg. or Electronics Engrg.; (2) 3-yr experience in job offered or 3-yr experience in wireless telecommunications engrg. in Telecommunications & Wireless Industry; (3) Experience must include design and development of system in Wireless Internet Platform (WAP technology); and standards and technologies of UMTS, GPRS, GSM, CDMA IS-95 and SMS. 40hr/wk; 9am-6pm. Mon-Fri. Pls. send 2 resumes to HR/OCF-cp, Consis International, L.C. 1900 N. Commerce Parkway, Weston, FL 33326.

Spectral Genomics, Inc. (Houston, TX) is seeking for (1) Bioinformatics System Engineer to develop company's bioinformatics system. 1 yr. related exp. in statistical and pattern recognition algorithm development using Labview, Oracle, Solaris, and Linux.

(2) Bioinformatics System Analyst to develop company's bioinformatics system using Rational Rose, UML, JDBC, EJB, Rosetta net, Weblogic, XML, Java Servlets and QA Tests. 1 yr. related exp. Send resume to 8080 North Stadium Dr., Houston, TX 77054 713-797-0203(F)/713-797-0092(T). Attn: Tom Martin.

**SENIOR DATABASE ADMINISTRATOR (ORACLE / MS-SQL)** - An international company headquartered in the Boston area, and engaged in the research, development, marketing and sale of state-of-the-art imaging media and devices, has an immediate need for a highly skilled Senior Database Administrator (Oracle/MS-SQL). This senior specialist position is responsible for new database creation, Oracle 7-Bi application development support, and management of approximately 22 separate corporate Oracle 7-Bi and MS-SQL databases, many of which are mission-critical requiring 24-hour/7-day on-call availability; this non-managerial position is also responsible for mentoring application developers and support personnel. The position's duties involve the design, implementation, upgrade, diagnosis, real-time failure correction and support Oracle databases on both Unix and NT platforms; the design, implementation, diagnosis, and support of MS-SQL databases; the writing of scripts in UNIX Shell, Perl, and PL/SQL programming languages; the installation, upgrade and support of Oracle in an SAP environment; and the set up and support of Oracle Standby database and split-mirror database backup. Minimum education requirements include a Bachelor's degree in Computer Science, Mathematics, or other job-relevant major. Minimum experience required is 8 years involving the design, development and implementation of database applications, at least three years of which specifically included Oracle database administration. Base annual salary is \$83,000 together with contributory medical and dental plan, life and disability insurance's, employer-paid vacation, and other industry-competitive benefits. Qualified applicants respond with two (2) copies of resume only to: Case# 200203250, Labor Exchange Office, 19 Staniford Street, 1st Floor, Boston, MA 02114.

**Senior Engineer (Senior Software Engineer):** Design and develop the persistence tier for the company product line. Design and implement the reporting subsystem for the company product. Work on several projects in the early stage of development and perform research, design, coding and testing for the project. Requirements include a Master's degree or equivalent in Computer Science, an Engineering discipline or related field and three years of work experience in the job offered or related field of software engineering. Experience must include knowledge of: Solaris, Linux, C++, Java, SQL, Javascript, MS Interdev and ASP. Applicants must have unrestricted authorization to work in the United States. Salary \$96,624/year. 40 hours/wk. Respond with two copies of resume to Case #200203095, Labor Exchange Office, 19 Staniford St., 1st Fl., Boston, MA 02114.

## COMPUTER

Semantic Space has a continuing need for multi skilled IT professionals. Positions available are Software Engineers with .net, VBScript, Jscript, ASP.net skills; Programmer/Analyst, Project Leader/Manager with extensive experience in IT industry. Send resume to: 100 Pacifica, #270, Irvine, CA 92618. Attn: HR or fax to 949-789-7334

**Senior Software Engineer-Work hands-on in the development lifecycle of e-health technologies, including design, implementation, testing and maintenance of enterprise software application, GUI, backend, and stand alone applications, software components and application servers for the healthcare industry. Develop, testing, and maintain software components, middleware containers, and web services to confidentially and securely manage patient information. Develop tools and technologies for document publishing and management, semantic processing and content extraction. Work with application of authentication, cryptography and public key infrastructure techniques and methodologies in developing secure transactions with the company's business partners and clients. Use knowledge of various XML technologies, Java and C/C++, object oriented design and web development technologies. Requirements include a Master's Degree or equivalent in Computer Science, an Engineering discipline or related field and three years of experience in the job offered or related field of web-based application development including Java, XML and C++. Applicants must have unrestricted authorization to work in the United States. Salary \$85,561/year. 40 hours/wk. Respond with two copies of resume to Case #200203251, Labor Exchange Office, 19 Staniford St., 1st Fl., Boston, MA 02114**

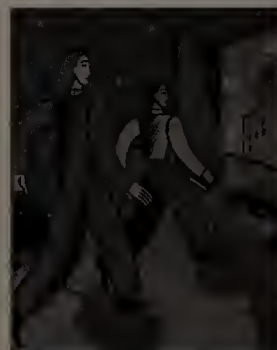
**Power Electronics Engineer:** Design, develop and test IGBT and MOSFET based power converters to include inverters, DC-DC converters, power supplies and frequency converters for motor drives, distributed power applications such as fuel cells and other industrial applications in the 5kW to 1MW power range. Design, develop and test DSP based controllers using analog and digital devices. Design, develop and test new power conversion and control topologies and concepts. Use power electronics and controls modeling tools to include Simulink, Pspice and other related simulation tools. Requirements include a Master's degree or equivalent in Electrical Engineering or related field and two years of work experience in the job offered or related field of design, analysis, development and testing of power converters in the range of 5 kW to 1 MW. Applicants must have unrestricted authorization to work in the United States. Salary \$83,590/year. 40 hours/wk. Respond with two copies of resume to Case #200203128, Labor Exchange Office, 19 Staniford St., 1st Fl., Boston, MA 02114

**Programmer Analyst w/exp in using Oracle, MS SQL, MS SQL Server under Windows & Unix environment. Implement GUI solutions using VC++, VB, Active X, VBA and Win 32API. Send resumes to: Apollo Consulting Services Corp., One Copley Parkway, Suite 430, Morrisville, NC 27560. No in person resumes/interviews; only respond by mail.**

Infobahn Technologies has immediate full time openings (2 positions) for Software Engineers to design, develop, test & implement web services & databases to the client's products & services using .Net technologies (ASP .Net, VB. Net, C Sharp), C++, XML, XSLT, UML, PL/SQL, T-SQL, Shell Scripting, Java & tools such as Source Safe, Clearcase, Filemaker Pro. Back-end development skills using Oracle, SQL server. Req BS in Comp. Sci. Engg/Rel field with 2 yrs exp. Send resumes to: Infobahn Technologies, (HR) 288 Walnut St. #410 Newton, MA 02460.

**Programmer Analyst needed w/exp in client/server & n-tier applications using Delphi, XML, HTML, ASP, TCP/IP, IIS, Star Team, COM/DCOM, Active X & MTS, Sybase, MS SQL Server, TSQL, ERwin & Cast SQL-Builder & TCP Trace. Use Quick Reports & Crystal Reports. Send resumes to: Triple Point Technology, Inc. 301 Riverside Ave., Westport, CT 06880. No in person resumes/interviews; only respond by mail.**

**Database Design Analyst/Project Lead for s/ware co in Manhattan, NY. Must have Master's in Comp Sci or reltd field & 2yrs exp in job offered. Send resume to: recruit@ftisoft.com & re: DDAP**



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Senior Software Engineer wanted by legal information services co. in NYC to perform systems design, programming & testing of applications and to provide support for JDEdwards One World and other applications. Experience in Oracle, SOL & JDEdwards One World ERP, distribution and financial systems, and 'C' programming using JDE API's. Resumes to CT Corporation Systems, 111 8th Ave, NY, NY 10011.

Software Developer  
Develop customized IT solutions based on a client's needs and business environment. Must have Bachelors Degree in Computer Science or foreign equivalent or in a related field & 2 yrs. exp. or 2 yrs. exp. in a related position w/ability to use: SOL, Visual Basic, Oracle PL/SOL, COM+ and MS-Excel. 40.0 hrs./wk 8:00 AM - 6:00 PM Applicants send cover letter and resume to: SRA Systems, 1945 Cliff Valley Way, Suite 270, Atlanta, GA 30329, Attn: S. Nagarajan

Programmer Analyst needed w/exp in s/w application modules using UNIX, Oracle, PL/SOL, Java & ASP. Create and maintain data loading mappings using ETL-Informatica tool. Create run & support web-based Business Intelligences using Microstrategy tool. Implement version control using PVCS & other available tools. Develop OSS & DSS Reports using Lotus notes. Send resumes to: E Center, Inc., 5170 North 53rd St., Milwaukee, WI 53218. No in person interviews/resumes; respond by Mail only.

GeoTomo LLC. (Houston, TX) is seeking a Java3D Software Engineer to develop graphic visualization tools for geophysical application software using Java3D programming. Send resume to 810 Highway 6 S., #220, Houston, TX 77079/281-597-1201(F)/281-597-1429(T). Attn: Kendall Lemke.

Software Engineer: Design, develop, implement & maintain web based global systems application allowing online accesses to the client's products & services. Manage & architect a solution that integrates the clients entire information system using C, XML, XSLT, JavaScript, HTML, DHTML, Java, Lotus Notes 5.0, Lotus Domino, Lotus Script and Windows NT/98. Exp to test & generate reports, user training & customizing of products. Req BS in Comp. Sci. Engrg/Rel field with 2 yrs exp. Wages: \$72,000/yr, 40 hrs/wk, 8am-5pm. Send 2 resumes to: Case#200203256, Labor Exchange Office, 19 Staniford St. 1st Fl., Boston, MA 02114.

SBI is looking for the following positions for its offices in Houston, TX, San Francisco, CA, Warren, NJ, Salt Lake City, UT and Portland, OR: Art Director, Web Designer, Programmer Analysts, Technical Architects, Technical Consultants, Business Strategists, Systems Analysts, Software Engineers, Software Developers, resumes by email or fax only to HR, SBI 2825 East Cottonwood Parkway, Suite 480, Salt Lake City, UT 84121: careers@sbiandcompany.com; Fax (801) 733-3201.

COMPUTER  
Integral Vision is seeking software engineers. Duties include: develop, upgrade & maintain its software. Require: BS in computer science or related major field, 5 years of experience in relation database (Access, SOL & Oracle), Gov. DOT Document workflow processes knowledge and Project Management experience. Please send resume and salary requirement to: 3176 Lucas Drive, Suite 200, Lafayette, CA 94549 attn: HR or email to: Jobs@integralvision.com

Seismic Micro-Technology, Inc. (Houston, TX) is seeking Applications Engineer. 6 mon. exp. in using cubic spline, triangulation, and minimum curvature algorithms. Send resume to 8584 Katy Fwy, #400, Houston, TX 77024 or 713-464-6440(F). Attn: Manager of HR.

Castilian Imports, Inc. (Houston, TX) is seeking a Computer Support Specialist to analyze, develop, test, and maintain business applications software using Bar Code system, SFC system, Inventory Control system, SQL Commands, and EDI. 1 yr. exp. Send resume to 22008 N. Berwick, Houston, TX 77095/281-858-1922(F). Attn: Hower Shen.

## Regional Sales Manager

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IT Careers has an exciting opportunity for a highly motivated and seasoned sales professional to join our team. This Regional Manager will be responsible for selling integrated recruitment advertising packages consisting of Print (within our network of publications), Online and Recruitment Event Show Booths, as well as other products as they become established. Emphasis will be on generating revenue by developing new accounts, but this individual will be responsible for growing existing accounts and servicing recruitment ad agencies ensuring that IT Careers is top of mind. The candidate will be the part of a sales team working to set the territory strategy, therefore collaborative selling skills are critical. In addition, this person must have a solid understanding of the IT recruitment market, be an effective communicator and negotiator and have a proven record in sales. Minimum of 5+ years of outside sales experience required, preferably in recruitment advertising sales. This position will be based in the candidate's home office on the west coast. Travel is required.

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Comp: S/w Engr, Program Analysts, Database Analyst, Syst Analyst, Ntwk Admin, for NH IT firm. Bach +1 yr exp for Jr. Lvl pos's & Mast +2 yrs or Bach + 5 yrs of exp for Sr. Lvl position. Skill req: Oracle, VB, Oracle Clinical, PL/SQL, SQL\*Plus, Java, JDBC, Java Servlets, JavaScript, RMI, JFC, Swing, Java Beans, C/C++, Win NT/2000, MS Access 2002, UNIX, Shell Scripting, DBA, Dream weaver, Websphere, Web logic, Web db, MS Access 2002 TOAD, HTML, DHTML, ASP, XML, Rational Rose. Apply w/2 copies of resume to HRD, Software Research Group, Inc., 75 Gil Crest Rd, Apt # 200, Londonderry, NH, 03053

Database Admin - Design, configure, install and administer Oracle databases utilizing AO, OID, VLDB, OEM, RMAN Oracle 9iAS, etc.; 2 yrs exp. in job off'd or related and B.S. in Comp Sci, Engrg or related. Exp. ref. req'd. Send res: Anid Infosoft, 2204 Haley St., Oxford, MS 38655.

PeopleSoft Programmer:  
2yrs technical exp. in PeopleSoft. Develop interfaces/reports using PeopleTools, PeopleCode on HRMS/FIn/Distrib modules. BS (Computer Science) or equiv. pref. Mail resumes: Navo Systems, 1150 Hancock St., 4th Flr, Quincy, MA 02169

COMPUTER  
PricewaterhouseCoopers LLP's Internal Firm Services practice has opportunities available for an experience Enterprise Messaging Manager. Positions require 5 yrs related exp., including in-depth knowledge and experience with Lotus Notes administration, Unix, NT Operating systems; and SMTP messaging. Job site/location: Tampa, Florida. Interested candidates please reference job code 473TSG & fax resume to PwC US IT Recruiting at 813-348-7980. No phone calls please. Employer will only consider applicants authorized to work for any employer in the U.S.

COMPUTER SYSTEMS HARDWARE ANALYST sought by oil & gas remote monitoring systems co. in Houston, TX. Must have M.S. in Electrical Engineering or M.S. in Electrical & Computer Engineering, plus exp. Respond by resume only to: Ms. L. Brown, R/P-#10, Mgr., V Monitor, Inc., 1000 Old Katy Rd., Houston, TX 77055.

IT Manager: Develop software apps; program & maintain billing/medical software. Bachelors/equivalent in Comp. Sc./Engineering w/rel. exp. Resume to HR, Healthcare America Med. Group, 3501 Cortez Rd., Bradenton, FL 34210.

Programmer Analyst needed w/exp in multi-tier software applications using Delphi, XML, SOAP, TIBCO, XSLT, Oracle & SQL Server. Send resumes to: Triple Point Technology, Inc. 301 Riverside Ave., Westport, CT 06880. No in person resumes/interviews; only respond by mail.

Health Data Analyst  
To develop and implement analytic health projects, perform analyses on data from various sources, and write custom health applications. Req. Master's degree in statistics, computer engineering or closely related fields, and proficiency in SAS, Oracle & Access. 40hrs/wk. Fax resumes to 678-527-3009. Code: Data2003. EOE

Comp. Engrg.: Design, develop, and implement software sys, incl. HR, financial and web-based sys using Oracle 9i/Rpts/Designer, C/PR, MSSQL Server, Java, etc. 3 yrs exp. in job off'd or related pos. w/same duties & BS in Comp. Sci. Lib Sci. (w/comp. related coursework) or related. Contact: SP Software, 12320 Clairmonte Ave., Alpharetta, GA 30004.

Infogen is seeking IT professionals. Req. BS. Skills in following area are plus: Oracle9i, Weblogic / WebSphere, C++, Visual C++, VB, COM, STL, MTS, MSMO, ASP, Java, HTML, XML, MTS, MSMO, ADO, UML. Travel is required. Send resume to [infojobs@infogeninc.com](mailto:infojobs@infogeninc.com).

Comp Consults is looking for programmer/system analysts, engineers or IT consultants. Our minimum requirement is BS plus some experience in following area: Oracle, Unix, C/C++, VB, Java, J2EE, EJB, XML, XSL/XSLT. Please send resumes to: [imgg@compconsults.com](mailto:imgg@compconsults.com) EOE

Database Administrator needed w/exp in: Oracle Database & SQL Server. Configure database Fail-Over using MC/Service Guard & Veritas clusters Database tuning using Statspack, Oracle Enterprise Manager & Precise. Use SQL Back Track, RMAN, Export & Import, Multi Master Replication & Standby Database methods Design database for DSS & OLTP. Prepare shell scripts using Kshell, Cshell & Perl Send res. to: Global Information Technology Services, LLC., 7067 East Chestnut Hill St., Littleton, CO 80130. No in-person resumes/interviews; only respond by mail.

Computer Software Associates (ICSA) is looking for software engineers, system/programmer analyst with skills in J2EE, Java, Websphere, Visual Age, Oracle, SOL, VB, ASP, ASP.Net, VB.Net, DB2, Unix, BS or equivalent required. Please contact [raghu-ponnala@icsa-us.com](mailto:raghu-ponnala@icsa-us.com). EOE

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Case #200203155  
Labor Exchange Office  
19 Staniford St, 1st fl.  
Boston MA 02114

**Systems Engineer II  
Louisville, KY**

Humana Inc., a Fortune 200 health benefits company, seeks a professional with:

- A minimum of two years of application development experience within two or more of the following technologies: MS Web (ASP, COM, XML, .NET, VB), Oracle (data-warehousing a plus), and IBM/DB2 mainframe.
- Healthcare or data warehousing experience.
- Bachelor's degree or technical training equivalent required.

We offer an excellent salary and benefits package, including immediate eligibility for health/dental coverage, pre-tax savings and retirement plans.

Please email resume to:  
tstate@humana.com or  
apply online at:

[www.humana.com/careers](http://www.humana.com/careers)  
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**Java Programmer Analyst.** Provide technical computer support and user assistance in developing, operating, and maintaining all web application programs for all divisions of Morley Companies, Inc; maintain existing web applications; and prepare program documentation. Must have Bachelor's in Computer Science or related, and knowledge of AS400 platform, Web Sphere Application Server, and HTTP server for IBM, EJB, Java, JSP, & Javascript. Send resume: Morley Companies, Inc., Attn: Richard Mott, One Morley Plaza, Saginaw, MI 48603.

**Software Development Engineer** (multiple openings). Req. Master's degree in CS, Info. Systems, or Computer Eng., and 3 yrs.' exp. in the job offered or 3 yrs.' exp. in computer systems dev. One year of stated exp. must incl. the following: use of Rational Unified Process dev. methodology util. Unified Modeling Language & Database Design Tools; dev. of Ntier apps. using .NET architecture; integration of Bloomberg financial data into custom financial applics.; dev. of securities lending system. Lead research, design, and dev. of the core processing system of the company's Securities Lending System, Metropolitan Enterprise Transaction System (METS). Analyze, formulate, design, & develop specifications for proposed computer system incl. developing use case models & use case scenarios using Rational Unified Process util. Unified Modeling Language & Database Design Tools. 40 hours/wk. Apply with resume to: Michelle Eyink, Human Resources Manager, Metropolitan West Securities, LLC, 11440 San Vicente Boulevard, 3rd Floor, Los Angeles, CA 90049. NO PHONE CALLS OR THIRD PARTY AGENCIES PLEASE.

**Software Engineer/Manager:** Design & develop software systems through implementation of structured technologies, execute software development life cycle phases, testing & validating of programs solving engineering problems, develop detailed technical requirements & specifications, perform quality assurance tasks of configuration & risk assessment; provide management & technical direction to project personnel; exercise personal judgment & analytical skills. Responsible for all aspects of project performance & administration. Must have: Bachelor's in Engineering, Comp Sci. or Info. Techn. & 2 yrs experience in job offered. M-F, 40 hrs/wk, \$93,000.00/yr. Respond to: Case #200202921, Labor Exchange Office, 19 Staniford St., 1st Fl. Boston, MA 02114.

**SR. PROGRAMMER ANALYST.** Responsibilities include analysis, development & design of multi-tier software apps using UML/Rational Rose, Java, J2EE, XML, XSLT, HTML, DHTML, JavaScript, CSS, Oracle, Windows & Solaris. Design & development of inventory/order mgt apps using Java, J2EE, XML, Oracle, Vitria & Metasolv's suite of pkgs such as OMS & Objectel. Min. 1 yr documented exp. a must. Requires BS in Electrical/Electron. Eng., Comp. Sci., Comm. Eng. or equiv. & documented evidence of authority to work in U.S. See website for more info. [www.teluni.com](http://www.teluni.com). Fax (559-751-2899) or mail resume to 6731 W. 121st St., Suite 217, Overland Park, KS, 66209. No phone calls or walk-ins please.

**User Systems Development Analyst.** Work Sched 9:00AM-5:30PM 40 hrs/wk. \$86,746.40 P/A. Design & develop MS SQL 6.5 & Sybase databases, & design, code & implement multi tier application systems for point-of-sale vehicle & component marketing & remarketing, finance maintenance & electronic document printing utility (Doc Print) systems. Design, implement, code & maintain point-of-sale applications for vehicle dealers. Lead team of 3 Analysts. Perform development of applications, including launch & support of business applications running in a client-server based environment using Visual Basic (VB) & other tools & collection & analysis of user requirements, design database structures & import data from client server & mainframe systems using SQL. Design, develop & maintain multi tier applications in VB, divided into Client Services & Retailer Services used to create quotes; view vehicle returns, balance to maturity, auction schedules, & vehicle locations; identify prospects; evaluate customers from remarketing information; analyze rates & residuals credit applications; & print electronic contracts. Develop Business objects & Data objects (middle tier) using Microsoft Transaction Server (MTS). Development, implementation, maintenance & deployment of application using ASP, Windows NT 4.0, VB 6, HTML, 3rd party Far point ActiveX controls, JANUS grid controls, Active Reports, ADO 2.1, Microsoft Transaction Server (MTS), Microsoft message Queue Server (MSMQ), Visual Source Safe for Source Control, & SQL Server 6.5. Develop 'n'-tier architecture applications using RDS & Distributed COM methodologies. Bachelor (or equivalent), Computer Science or Statistics & Systems Management. 3 Years exp. in Job or Related Occupation of Systems Analyst. 3 yrs. of Related Occupation exp. must include development & support of multi tier business applications running in a client-server based environment using VB, & design of database structures & imported data from client server or mainframe systems using SQL, which may be concurrent with Related Occupation exp. Employer Paid Ad. Send resume to MDCD, PO Box 11170, Detroit, MI 48202, Ref.#211813.

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## Offshore

veloping the best practices. There is "an increasing scale of risk and reward in the kinds of functions you take offshore," Salters said.

The reward is potentially lower costs. U.S. companies have been racing to use offshore services, and market research firms such as Gartner Inc. are predicting an acceleration of the rush. By the end of next year, Gartner expects that one out of every 20 IT jobs at user companies will have moved offshore.

"The floodgates have just opened," said Kumar Mahadeva, CEO of Cognizant Technology Solutions US Corp., a Teaneck, N.J.-based offshore services provider. "At this point, we got into a situation where the industry as a whole is almost constrained by how

fast it can grow," he added.

Offshore outsourcing of production support and other IT infrastructure operations is a niche activity today. But analysts at Meta Group Inc. predict that in the next several years, as much as 40% of production support may be managed offshore.

Two months ago, the members of the FSTC — a who's who of financial services companies, including J.P. Morgan Chase & Co., Bank of America Corp., Citigroup Inc. and Wells Fargo & Co. — met to discuss how they could reduce offshore risks.

Work is under way to examine offshore security, privacy, business continuity and contract-cancellation issues associated with offshore management of onshore applications. The goal is to complete a best-practices report by the end of the year.

The FSTC will also work

## Risk Reduction

**Financial services firms are working together to mitigate the risks of managing live IT processes offshore. Those processes involve:**

**PRODUCTION SUPPORT:** Real-time support of applications, trouble-ticket fixing, patches, help desk

**INFRASTRUCTURE SUPPORT:** Close cousin of production support; includes network management, server capacity management

with vendors and financial services groups such as the financial industry consortium BITS in Washington. The group recently updated two outsourcing guideline documents to include overseas production support.

The BITS reports offer guidelines for complying with regulations. The second of the two documents, available for

public comment through Oct. 28, suggests guidelines for security audits, vendor management and cross-border relationships.

"What we were looking to do for our members is develop risk mitigation tools that the industry can use to identify and understand the controls service providers are using... around things like access [and] communications," said Faith Boettger, the senior consultant in charge of the BITS initiative.

The FSTC seems to be taking a more tactical approach. For instance, it will look at data-masking technologies and offer guidelines on technology features. IT vendors are looking for technology guidance from the group, said Salters.

By participating in this effort, companies may be sharing competitive information. But Salters said that if any firm makes a mistake in man-

aging offshore operations, there could be ramifications from lawmakers and regulators for everyone in the industry. "It's really not considered a proprietary issue at this point," he said. **42182**

## Bank Awards IBM \$543M Contract

BY JUAN CARLOS PEREZ  
IDG NEWS SERVICE

TD Bank Financial Group in Toronto has decided to outsource the management of its PC and network infrastructure to IBM in order to devote more IT resources to developing new financial services, IBM announced last week.

The seven-year, \$543 million deal calls for IBM to manage and support over 40,000 PCs and to transform and revamp the existing data network, IBM and TD Bank officials said. "It's an effort to focus greater energy on our core business," said Neil Parmenter, a bank spokesman.

Financial services companies, which are in a fiercely competitive market, have to create innovative services to distinguish themselves, said Garth Issett, vice president of strategic outsourcing at IBM Global Services Canada. That market dynamic is prompting banks to outsource IT tasks that external providers can handle more efficiently and at a lower cost, he said.

The contract became effective late last month, and the work has already started, Issett said. About 370 of the bank's IT employees have been transferred to IBM. The bank is a longstanding client of IBM, but this is the first outsourcing deal between them, Issett said.

The services IBM is providing include help desk phone support, dispatching technicians for on-site work at the bank, and maintaining, upgrading and acquiring PCs.

**42215**

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## Competing

in their schedules, "your whole organization will benefit from adding talent without adding cost," said Saunders.

Chip Express Corp., a custom chip manufacturer in Santa Clara, Calif., hired Ariesnet to redesign its Web site.

"Developers in India are very capable of coding and providing what you ask for," said Heather Savage, the marketing communications manager at Chip Express who managed the project. "But that's not all I need," she added. Savage said that although she considered offshore developers, she ultimately valued the easy access she had to Ariesnet's Web developers and felt she was working in partnership with the company.

Another outfit taking on offshore developers is Real-Time

Technology Solutions Inc. in New York. Earlier this month, the company announced a service called Onshore Automated Testing, which has enabled it to reduce prices by offering remote testing services instead of having its employees go on-site.

Some service providers, such as Deloitte Consulting in New York, say they're competing by operating offshore development centers that combine the best of both worlds: low cost, plus value-added integration and business-consulting expertise.

Some users of offshore services, meanwhile, recommend against trying to compete directly

with providers in India and elsewhere.

"I think U.S. companies can compete, but it won't be as the low-cost provider," said Ron Glickman, CIO at DFS Group Ltd., a San Francisco-based company that operates duty-free shops primarily at airports worldwide.

Instead, Glickman said, U.S. firms need to focus on strategies that provide expertise beyond what's available from offshore development. "I think getting complementary with offshore is a more important strategy than getting competitive with offshore," he said.



**"I think U.S. companies can compete, but it won't be as the low-cost provider."**

RON GLICKMAN, CIO, DFS GROUP LTD.

One thing that's made offshore providers attractive is the quality of their work, said Paul Fielding, who is in charge of offshore initiatives in application development at a financial services firm that he asked not be named.

Fielding, who was at offshore provider Cognizant Technology Solutions' user conference in Key Biscayne, Fla., last week, said that although costs are prompting U.S. firms to look offshore, it's the quality of the work that keeps them there.

Fielding said India's developers are more disciplined about coding than U.S. developers are. The U.S. software industry was spawned by brilliant and creative people who focused on innovation, not quality, he said. "That culture persists even today," Fielding said, "but now people depend on this technology as though it were a manufactured product."

— Patrick Thibodeau



FRANK HAYES ■ FRANKLY SPEAKING

# DCML: Less Is More

**I**F YOU'VE BEEN TRYING to figure out what this new Data Center Markup Language is all about, you're not alone. And there's a lot to figure out, if DCML's backers at EDS, Opsware, Computer Associates and BEA are to be believed. DCML is for data center management. And grid computing. And utility computing. And disaster recovery. And just about any other buzzword-compliant IT function making the rounds these days. It all sounds pretty grandiose.

But DCML is a lot less than it seems. And that's a good thing.

What is DCML? It's text. Highly structured text, sure. Text that's

as full of tags as the thickest HTML. Text that's never going to qualify as anybody's choice for bedtime reading.

But it's not a protocol. It's not a programming interface. It's not a middleware framework. At its core, DCML is just a lot of words.

Specifically, it's a lot of words that describe what's in your inventory of IT systems and software, and how those systems and applications fit together, and what your best practices are for running, managing and maintaining it all.

And all that data about your IT setup is formatted using a standard set of XML tags. It's not specially encoded or compressed, or subjected to any other complications or proprietary hacks.

Which means, in theory, that it should be usable by any vendor that has signed on to support DCML. And maybe — though no one is absolutely sure how this will come together — we'll be able to use that information to solve data center problems and make better use of IT for things like utility computing.

Oh yeah — and after all the years that the IT press and pundits have sung the praises of XML, corporate IT shops will finally get the chance to taste that XML dog food for themselves. (And if we can't get XML working for data center management, for once we won't be able to blame it on those clueless non-technical users.)

So if DCML is just a lot of text formatted with XML — if it's really that simple — what's so hard to figure out?

Answer: DCML is simple. But the things that vendors are promising we can do with it are complex. And so are the things we're trying to describe with it.

And that's the way it should be. Because the more complex the problem we're trying to solve, the less complicated we need the technology to be.

We want to push the technical complexity down into the infrastructure — the networks, the servers, the storage systems. We want to clear out as much complexity as possible from any new technology that's supposed to make them all work together.

Which is why DCML isn't a protocol. Or a programming interface. Or a middleware framework. Those things can be useful, but they bring a lot of complex technical baggage with them. And we end up spending a lot of time and effort wrestling with those complexities instead of solving business problems.

DCML is intended to be simple, lightweight and hard to get wrong. The complexity is in the information and the business problem, not DCML itself.

That should give vendors less opportunity to foul up their DCML implementations. It should also make it a little harder for us to foul up with DCML, too.

It's a good idea. Will it work? We'll see. The first version of the DCML specification is due to be published in December. After that comes the tough task of applying DCML to real data center management challenges.

Then, eventually, we'll get our taste of DCML. And yes, I'm hoping this less-is-more, simpler-is-better approach works. Because the problems IT is trying to solve — inside and outside the data center — are just going to get more complex.

And the less we have to figure out, the better. **42149**



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## Better Late Than Never

This pilot fish is up all night troubleshooting a failed payroll job, but the IT director sees him stumble in at 9:30 a.m. Furious at this "tardiness," director fires off a memo: From now on, work starts at 8 a.m. and stops at 5 p.m. — no exceptions. "The next time operations staff called in the wee hours, they were told we couldn't help until 8 a.m.," fish says. "After some late payroll runs, the director was fired and the more relaxed work rules were restored."

**It's So Simple**  
Tech pilot fish discovers this point-of-sale

**SHARK TANK**

tension — are the ones who don't get the notice."

PC's LAN drivers are missing, so he calls the help desk. "All you need to do is download the files off the server," help desk tech says. But the PC can't talk with the server, fish points out. "Then use a patch cord to connect directly to the server," desk tech suggests. You want me to patch into the LAN to download files so it can talk on the LAN? sputters fish. Silence, then help desk tech says, "Maybe you shouldn't be in this line of work."

## But They're Just Taxpayers

When pilot fish at this government agency goes on paternity leave, he sets up his e-mail account so a polite "out of office" response is sent automatically. Except it isn't, he discovers: IT configured the e-mail system so only those in the office will receive an "out of office" message, not outsiders. Grumbles fish, "In other words, the people most likely to need to use e-mail in the first place — who can't just walk down the hall or dial your four-digit ex-

## What It Says

It's 1985, and this computer room has a big, red panic button next to the door — and stuck to it is a yellow Post-it reminding workers, "Log out." When a user is brought in to delete certain files, she's watched like a hawk — but all goes well until she's done and a supervisor reminds her to log out before leaving. "She marched to the door and bashed the big, red button that said, 'Log out,'" sighs a pilot fish on scene. "It took five days to recover."

## Smokin'!

Computer store donates 11 PCs to a local high school. While store's tech sets the first one up, he takes off his impressive specs. "It's smoking," comments school IT pilot fish, who is standing nearby. Yep, blaring fast, tech agrees. "No, it really is smoking," says fish — the miswired PC is churning out smoke. "He quickly turned it off," says fish, "and with great humility and care, he checked the other 10 before starting the setup."



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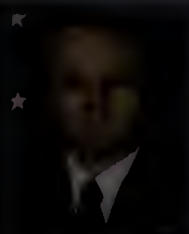
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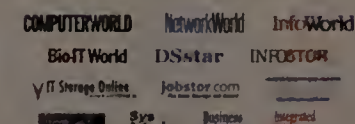
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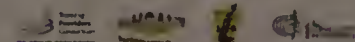
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